Partner Communication and Factors Associated with the Decision to Obtain an HIV Test Among Chinese/Chinese American Community College Students in Northern California

Sang Leng Trieu

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PARTNER COMMUNICATION AND FACTORS ASSOCIATED WITH THE
DECISION TO OBTAIN AN HIV TEST AMONG CHINESE/CHINESE
AMERICAN COMMUNITY COLLEGE STUDENTS IN NORTHERN
CALIFORNIA

By
Sang Leng Trieu

A Dissertation in Partial Fulfillment of the Requirements for the
Degree of Doctor of Public Health in Health Education

June, 2008
Each person whose signature appears below certifies that this dissertation, in his/her opinion, is adequate in the scope and quality as a dissertation for the degree of Doctor of Public Health.

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ABSTRACT OF THE DISSERTATION

Partner Communication and Factors Associated with the Decision to Obtain an HIV Test among Chinese/Chinese American Community College Students in Northern California

by

Sang Leng Trieu

Doctor of Public Health Candidate in Health Education

Loma Linda University, Loma Linda, 2008

Naomi N. Modeste, Dr.PH, CHES, Chair

HIV testing and counseling is considered the cornerstone of a comprehensive approach to HIV prevention and education. Little is known, however, about HIV prevention, including HIV testing rates for Asian Pacific Islander (API) women, because data for this ethnic group is aggregated, thus limiting specific data for Chinese/Chinese American population or other API subgroups. This dissertation research examined factors associated with the decision to obtain an HIV test among Chinese/Chinese American community college women and explored the association among relationship status, partnership communication, and discussions of HIV testing.

Using constructs of the health belief model, an online and paper-pencil, cross-sectional design survey was administered at four community college campuses in Northern California (N=230). Results indicate 30% of respondents obtained HIV testing. The most common reasons for testing were “just to find out” (73%), “having had unprotected sexual intercourse” (63%), and “having had sex with a new partner” (57%).
Among those who never tested, low levels of perceived susceptibility and lack of knowledge on testing sites were the most common barriers. Multiple logistic regression analyses revealed older age, American-centered/mixed ethnic identity, lack of condom use during last intercourse, lower perceived barriers, and higher self-efficacy as significant predictors of HIV testing history \( p = .007 \). Emphasizing these reasons in HIV education campaigns will likely increase testing rates for this population.

In regards to partnership status, 60% of respondents were in committed partnerships, 21% in casual partnerships, and 19% were single or in nonsexual relationships. Fifty-one percent have ever communicated with their partners about HIV testing/serostatus. Results indicated that relationship status and partner communication were associated with a history of testing.

Interventions to increase partner communication among Chinese/Chinese American college women and their partners are needed. Findings from this study contribute to the limited existing literature and provide disaggregated data on a specific API subgroup to health educators planning culturally appropriate and effective HIV prevention programs. Self-selection, recall error and social desirability bias from self-reports, and nonrandom sampling technique limit the generalizability of the findings.
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A few years ago, my 5 year-old nephew Harrison asked, “E-Leng, do your teachers ever get tired of teaching you?” Harrison’s question elicited laughter among my family because of the many years I have spent in graduate school, plus that is all he has ever known his aunt to be. This dissertation represents the immeasurable contributions by many individuals, all of whom have been teachers in their own ways and they have helped me realize my dream of completing a doctorate program.

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and within my community. My accomplishments reflect the collective involvement of everyone mentioned here.

This dissertation is dedicated to my parents for their love, patience, and understanding of my need to return to graduate school. I hope I have made them proud. I also hope my research has contributed to the field of HIV prevention, and more importantly, that my nephews Harrison and Benjamin will someday live in a world where HIV/AIDS will no longer be a public health crisis. And Harrison, I’m not sure if my teachers ever got tired of teaching me, but I certainly will never get tired of learning.

Los Angeles, California
May 2008
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ACHA</td>
<td>American College Health Association</td>
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<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>API</td>
<td>Asian Pacific Islander</td>
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<tr>
<td>Casual partner</td>
<td>Someone with whom you have or had sex but do not consider to be</td>
</tr>
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<td></td>
<td>main partner</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
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<tr>
<td>Committed partner</td>
<td>Someone you have or had an ongoing relationship, like a spouse,</td>
</tr>
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<td></td>
<td>lover, boyfriend, or girlfriend</td>
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<tr>
<td>HITS</td>
<td>HIV Testing Survey</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HBM</td>
<td>Health Belief Model</td>
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<td>IDU</td>
<td>Intravenous Drug Use</td>
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<td>IRB</td>
<td>Institutional Review Board</td>
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<td>MMWR</td>
<td>Morbidity Mortality Weekly Report</td>
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<td>MSM</td>
<td>Men who have Sex with Men</td>
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<td>NAPAWF</td>
<td>National Asian Pacific American Women’s Forum</td>
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<td>NHIS</td>
<td>National Health Interview Survey</td>
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<td>OA</td>
<td>Office of AIDS</td>
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<td>SAFE</td>
<td>Serostatus Approach to Fighting the Epidemic</td>
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<td>STD</td>
<td>Sexually Transmitted Diseases</td>
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<td>UCLA CHIPTS</td>
<td>University of California, Los Angeles, Center for HIV</td>
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xv
Identification, Prevention, Treatment, and Research

UNAIDS Joint United Nations Programme on HIV/AIDS
US United States
A. Statement of the Problem

HIV testing and counseling is considered the cornerstone of a comprehensive approach to HIV prevention and education. Knowledge of serostatus, namely being HIV positive or HIV negative, is one of the specific objectives of the Healthy People 2010 “prevention of HIV infection” indicators (U.S. Department of Health and Human Services, 2000). Globally, more than half of all new HIV infections are projected to be among persons 25 years of age and under, though actual infection rates for this group in the United States is currently undergoing debate (Holtgrave & Curran, 2006; personal communication with Michael Males, November 14, 2006). Increasing the number of HIV-positive college students who know their serostatus is also identified as a high-priority objective in Healthy Campus 2010, a set of national health objectives that are a by-product of Healthy People 2010 specifically outlined for the college population (American College Health Association, 2002). In a study on the impact of HIV test counseling on college students’ sexual beliefs and behaviors, researchers concluded that testing could be used as both a prevention tool and a way to determine college students’ HIV status (Mattson, 2002).

Asian Pacific Islanders (APIs) make up 1% of the total AIDS cases reported in the US with API women making up 13% of cumulative API cases, although this figure may be inaccurate due to underreporting and lack of detailed HIV surveillance data for this group (UCSF, 2003). For instance, each objective of the Healthy People 2010 indicates
whether data for the API group are missing or inconclusive. Of the 13 HIV indicators outlined in the report, four are broken down into ethnic specifics, although data were not reported for the API group but were alternatively listed as “data was not collected” or “data are statistically unreliable” (US DHHS, 2000).

The API proportion of US AIDS cases however is rising, possibly due to an increase in API populations. The most recent HIV/AIDS surveillance report, 2005, states that APIs comprise 0.6% of the 550,394 Americans who have died from AIDS; 1.0% of the 437,982 who are now living with AIDS; and 1.2% of those diagnosed in 2005 with AIDS. Currently, 4,356 APIs are now living with HIV or AIDS, including 713 women, with 144 new HIV or AIDS cases diagnosed among API women in 2005. Approximately three-fourths of known cases involved “high risk sexual contact” (Centers for Disease Control, 2006). Recent statistics also indicate that from 2001-2004, APIs experienced an increased incidence of HIV/AIDS for both genders while other ethnic groups reported declines (CDC, 2006).

Although APIs comprise the largest proportion of anonymous HIV test site clients, they also reported the lowest testing rates of any ethnic group (10.8% of API young adults versus 18.7% of White young adults; and 33.3% of Asian women compared to 33.6% of White women, 45.4% of Hispanic women, and 52.4% of Black women)(Darbes, Kennedy, Peersman, Zohrabyan, & Rutherford, 2002; Zaidi, Crepaz, Song, Wan, Lin, Hu, & et al., 2005; Nguyen, Ford, Kaufman, Leone, Suchindran, & Miller, 2006). The fact that APIs constitute the largest percent who request anonymous testing may indicate that the disease is even more stigmatized within the API community,
as well as issues of undocumented immigrants (personal communication with ManChui Leung, April 2006).

Little is known about HIV prevention, including HIV testing rates for API women because data are aggregated under an API umbrella group and rarely ever broken down into specific ethnic groups. In addition, previous studies have focused primarily on men who have sex with men, if they are included in surveillance data at all. The limited number of studies conducted on API women addressed HIV-related sexual risk assessments, perceived susceptibility to HIV, and partner characteristics on condom negotiations, with results showing that there is a critical need to direct more attention to this population, and specifically focusing on single ethnic groups (Chin, 1999; Cooper, Loue, & Lloyd, 2001; Jemmott, Maula, & Bush, 1999; Lam & Barnhart, 2006). Gender specific and gender empowering strategies are increasingly recognized as critical elements in planning HIV prevention interventions, as we now have the “feminization of HIV/AIDS” (Dworkin & Ehrhardt, 2007).

APIs in the US are a heterogeneous group, representing more than 50 countries and speaking more than 100 languages and dialects. APIs are also experiencing the fastest increase in population growth. Chinese make up the largest ethnic group, with the majority (63%) being foreign-born (APIAHF, 2005). The lack of disaggregated data among the API population provides little specific information about how the HIV epidemic affects Chinese Americans. There is an essential need to collect more data for this group and to examine how various levels of acculturation (such as a measure of primary language spoken at home) affect health behaviors, particularly ones pertaining to HIV prevention practices (Zaidi et al., 2005). Accurate and specific data will also help to
dispel the 'model minority' myth that oftentimes lead to negative policy implications and funding allocations of Chinese Americans and other APIs.

Approximately one in four individuals infected with HIV is unaware of their serostatus (CDC, 2006). National, local, and ethnic-specific targeted campaigns have contributed to improving testing rates. National Asian and Pacific Islander HIV Awareness Day, which includes a testing component, was inaugurated in 2005. To further enhance such programs, there is a need to better understand the factors that influence decisions to get tested or to avoid testing. Over the last decade, reasons for testing have shifted, with “part of a routine medical checkup or surgical procedure” replacing “wanting to find out if infected or not” as the most common reason adults reported for testing. It is important to understand changes in determinants for testing and particularly in the cultural context, especially if API female college students do not have routine checkups or procedures.

Partner communication plays a strong role in HIV prevention, setting the stage for a more in-depth conversation about safer sex and prevention of sexually transmitted infections. Researchers found that one strategy for reducing the level of HIV risk for women is to enhance communication with their partners (Klein, Elifson, & Sterk, 2004). In a randomized, controlled trial, HIV testing has also been shown to help college students increase communication with their sexual partners, while another randomized trial of STD clinic patients found that HIV testing promotes safer sexual practices (Wenger, Greenberg, Lhilborne, Kusseling, Mangotich, & Shapiro, 1992; Wenger, Linn, Epstein, & Shapiro, 1991). APIs, however, reported significantly less AIDS-related interpersonal communication than their non-API counterparts (Scott, Gillam, & Braxton,
Social and cultural norms, as well as culturally determined gender roles, discourage API women from openly and directly discussing sexuality (Jemmott et al., 1999; Yoshikawa, Wilson, Hsueh, Rosman, Chin, & Kim, 2003; Scott et al., 2005). The lack of specific data on HIV testing and partner communication demonstrates a strong need for more culturally-based research on HIV prevention among API women and Chinese/Chinese Americans specifically (Zaidi et al., 2005).

Although college health has had a long presence both at the national level and on campuses with a national organization beginning in 1920, student health services is still at an infancy stage on many community college campuses (ACHA, 2007; American Association of Community Colleges, 2002; McKinney, 1998). The large majority of studies on college health focus on traditional 4-year college or universities, as many community colleges have only recently begun to provide an infrastructure equipped to address student health issues (McKinney, 1998).

On a national landscape, community college students have a distinct profile: with 11.6 million students enrolled on 1,200 campuses, 43% are age 21 or younger, 59% are women, and 6% are APIs (AACA, 2007). As socioeconomic demographics of community college students differ from that of four-year school students, such as being the first in the family to attend college (39%), research is needed at this level of higher education. Thus, focusing on community college students in a dynamic and progressive geographic area of California contributes to the literature on an understudied group of college students. Chinese students also make up the largest percentage of international students on US college and university campuses (NAFSA, 2006).
Furthermore, students age 18-24, categorized as Millennial Students, have a unique profile that is different from a generation before. They are a generation born with the emergence of the HIV epidemic and thus do not know a world without the disease. They are an ethnically diverse generation and are beneficiaries of a youth safety movement, which may have implications on their reception and response to HIV prevention messages.

B. Purpose of the Study

There were two primary purposes of this dissertation research study: to examine factors that influence the decision to obtain an HIV test among Chinese American community college women and to explore the relationship between partner communication and discussions around HIV testing. Research is needed to understand predictors of HIV risk and HIV testing in order to examine reasons why Chinese American college women choose to get tested or to avoid testing. Anastasi and colleagues (1999) have noticed that HIV testing services on college campuses continue to be in high demand (evidenced by the fact that nearly 3 out of 4 students stated they would have sought testing elsewhere if the campus health center did not offer it), despite the fact that students are likely to receive negative test results. This pattern continues to surface as evidenced by lower prevalence rates among college students compared to the general public (less than 1% prevalence on college campuses compared to 1.5% at publicly funded testing sites), making it even more critical to further explore the determinants of why college students seek testing (CDC, 2006). In addition, the recent shift in CDC’s national policy to place more emphasis on HIV testing as a central focus of HIV prevention require improved understanding of how individuals decide to take an HIV test.
(Morrill & Noland, 2006). These findings are useful for designing effective programs to educate community college students and increase HIV testing (Lauby, Bond, Eroglu, & Batson, 2006).

Partner communication plays a strong role in HIV prevention, thus making it critical to understand factors that influence communication (Powell & Segrin, 2004; Klein et al., 2004). In addition, communication patterns differ between those in different types of relationships, namely casual versus committed relationships, impacting sexual decision making (Troth & Peterson, 2000; Civic, 1999; Lescano, Vasquez, Brown, Litvin, & Pugatch, 2006). For example, condom use has been found to be higher for non-primary partners versus primary partners (or in this case, casual versus committed partners) (Kahle, Freedman, & Buskin, 2005). Examining relationship characteristics in young adult dating partnerships from the female perspective of APIs provides further insight into factors that may increase the effectiveness of HIV prevention interventions (Civic, 1999).

C. Research Questions

1. What factors influence the decision of Chinese/Chinese American college women to obtain an HIV test?

2. What is the association between relationship status, namely casual versus committed relationships, and HIV testing among Chinese/Chinese American college women?

3. Are there differences in terms of frequency and comfort level in partner communication on HIV and HIV prevention between those with 'casual' versus 'committed' sexual partners?

4. What cultural factors promote or discourage partner communication on HIV testing?
D. Theoretical Justification

The health belief model (HBM) was used as the theoretical framework for this study, as it has been demonstrated to be useful for predicting HIV preventive behavior (Steers, Elliot, Nemiro, Ditman, & Oskamp, 1996). HBM is one of the most widely used frameworks in health behavior interventions, such as cancer screening, prenatal care, and safer sex (Glanz, Rimer, & Lewis, 2002). According to Yep (1993) and Cooper and colleagues (2001), the health belief model has shown greater utility in examining screening behavior for use among Asians than any other model, and has been used in other studies on APIs and HIV prevention, and other health behavioral studies. Specifically among Chinese American women, the HBM has been used to examine screening behaviors for clinical breast exam, mammography, and cervical cancer screening in which cultural barriers were addressed, but not to explain or predict HIV testing.

Constructs that was used to examine relationships among variables include perceived susceptibility, perceived seriousness, perceived threat, perceived benefits, perceived barriers, cues to action, and self-efficacy to evaluate whether they are associated with whether a woman has had an HIV test or not. Cultural factors that promote or discourage partner communication among types of sexual partnerships were also explored to enhance the predictive power of HBM. Cultural beliefs and acculturation were used in previous research as constructs of examining predictive ability of the HBM as it relates to HIV prevention behavior (Lin, Simoni, & Zemon, 2005). Research indicates that college students and APIs tend to perceive lower risk of HIV infection than Whites (Opt & Loffredo, 2004; Yoshikawa et al., 2003). In a study on
perceived susceptibility of HIV infection among API women, Cooper and colleagues (2001) found that significant correlates include age, risk behaviors, higher education level, and knowing an HIV positive person. Perceived risk for HIV has also been found to have a greater effect in the decision to get tested than supply factors such as the availability of test sites (Taylor, Leibowitz, Simon, & Grusky, 2006). Thus, it is important to explore the perception of susceptibility of Chinese American college women to HIV infection, and how that would impact their perceived threat, seriousness, benefits, barriers and cues to action to obtain an HIV test or other factors might impact perceived susceptibility.

Given that the HBM is a value-expectancy theory, perceived benefits of obtaining a test was also explored along with perceived barriers. In some reviews of HBM, perceived barriers or factors, such as cost, pain, or embarrassment, are often seen as the primary determinant of behavior. For instance, in a study examining health beliefs as predictors of HIV preventive behavior among college students in southern California, researchers found that perceived barriers, in conjunction with several other constructs, predicted increase condom use and decreased number of sexual partners in Asian Americans (Steers et al., 1996). In Lin and colleagues’ (2005) study of Taiwanese immigrant college students, perceived barriers in regards to performing protective behaviors, such as consistent condom use and involvement with a steady sexual partner, predicted less frequent sexual intercourse. Perceived barriers were addressed in this research, including structural barriers such as uncertainty about testing locations, confidentiality, and fear of finding out HIV test results.
The construct self-efficacy, measured as the confidence in one’s ability to take action, was examined by looking at how participants made the decision to get an HIV test or to avoid testing under various situations. Steers and colleagues’ (1996) study found that self-efficacy is related to safer sex behaviors among Asian American students. Figure 1 conceptually illustrates the relationships of how constructs of the HBM may ultimately influence the decision leading to an HIV test.

Figure 1. HBM Constructs Influencing Decision to Obtain an HIV Test. Model adapted from Glanz, Rimer, & Lewis (2002).

E. Significance to Health Education

API women are an understudied, underserved, and often overlooked group, particularly in the public health realm. The paucity of studies on women and HIV/AIDS
in the Chinese/Chinese American community sorely needs attention, particularly on patterns and reasons for obtaining an HIV test, and were thus the focus of this research. Although rates of HIV infection for this population are low, we need to understand why and perhaps consider the role of protective factors. A study on HIV testing behaviors, particularly how to increase testing rates, may result in the detection of new cases. We also need to examine the knowledge base of social and cultural factors that affect HIV risk behaviors in order to prevent future infections. Findings from this study contribute to the limited existing literature and provide disaggregated data on a specific API subgroup to health educators planning culturally appropriate and effective HIV prevention programs. By examining reasons for testing, these findings can be incorporated into social norm messages to encourage increased HIV testing among this population.

In 2001 CDC's Serostatus Approach to Fighting the Epidemic (SAFE) initiative, one of the four key targeted populations were persons who are aware of their HIV-seronegative status with no apparent behavioral risk of infection. The rationale to direct efforts on this population is to educate such individuals in adopting and sustaining HIV risk reduction behavior and ultimately avoid infection. It is possible that Chinese American college students may fall under this category, and thus could be deliverers of HIV prevention messages to their family, friends, sexual partners, and other members of their social networks who may be at increased risk. Health communication messages that address cultural barriers will strengthen the impact of health education and assist health professionals in reaching underserved populations.
CHAPTER 2
LITERATURE REVIEW

A. Overview

There is a dearth of information on HIV prevention efforts and its impact on effective behavior change for Asian Pacific Islander (API) women in the US. The purpose of this literature review was to examine empirical studies that have been conducted on HIV prevention, education, and testing among APIs, API women, and API college students. Due to the limited number of studies that focused on the aforementioned groups, a broader analysis of college students and HIV testing rates among the general population is also included. Studies focusing on relationship status and partner communication on sexual health were also reviewed. The rationale for using the HBM is also discussed.

B. The Chinese in the United States

The Chinese diaspora in the US is marked with diverse patterns of immigration, nativity, dialects spoken, and socioeconomic status. As the first group of Asian ancestry to arrive in the US, the immigration patterns of Chinese Americans can typically be summarized in four major historical periods (Yin, 2005; Chang, 2003). The first wave dates back to the 1850s when Chinese workers were brought in to work in the mines and on the railroads, a period considered the era of free immigration. Thereafter, labeled as the “yellow peril,” Chinese Americans suffered from one of the most racially discriminatory practices under the Chinese Exclusion Act of 1882, which halted the flow of Chinese immigration into the US. This had major familial and social
implications, resulting in the emergence of a “bachelor’s society” because Chinese women were barred from entry. In 1943, Congress repealed the Chinese Exclusion Act, which began the third wave of immigration. This time period witnessed a large number of Chinese students who were “stranded” and ultimately settled in the US when the Communist Party assumed power in mainland China in 1949. Beginning in 1965, the Chinese American population experienced dramatic increases during the latest fourth wave when Congress passed a landmark Immigration Act granting Chinese equal quotas.

Since the first arrivals 150 years ago, there are now approximately 2.4 million Chinese in the US, comprising the largest API ethnic group, or one-fourth of the total API population (U.S. Census, 2000). The majority (63%) are foreign-born, with most emigrating from mainland China, Hong Kong, and Taiwan. Many others have emigrated from Southeast Asia, from countries such as Singapore, Malaysia, and Vietnam, self-identifying as Chinese based on their origins and cultural roots. For example, census data from 1990 of Chinese Americans in Los Angeles indicated that 23% were born in the US, 27% in mainland China, 20% in Taiwan, 8% in Hong Kong, and the remaining 22% were born in other countries around the globe (AsianWeek, 2003). It is also estimated that about 40% of refugees from Vietnam and Cambodia are of Chinese descent, identifying themselves as Chinese in ethnicity but not on census forms (Yin, 2005). Chinese dialects that can be heard throughout the many enclaves of the US, both traditional “downtown” Chinatown and more recent “uptown” middle-class suburban areas include Mandarin (the official dialect of China), Cantonese (the official language of Hong Kong), Hakka, Fujianese, Chaozhounese, and Shanghainese.
California is home to the largest API population, reflecting both historical trends and the dynamic growth patterns of Asian Americans. APIs make up approximately 13% of the state’s 34 million residents. Among the API population, Chinese Americans constitute the largest proportion at 25.8%, followed by Filipinos and Vietnamese, respectively (AsianWeek, 2003). California is home to 40% of all Chinese Americans. Asian Americans are considered the most well-educated group in the state, where approximately 66% of all API adults age 25 or older have at least some level of college education. Chinese Americans have higher educational attainment than the mainstream White population, with 41.6% possessing a college degree or higher compared to 33.8% for Whites.

Chinese Americans are changing the social fabric of America through their significant intellectual, economic, and technological contributions in the state of California, ranging from political representation at various levels of governance to comprising 17% of Silicon Valley’s start-ups, and representing more than 13% of students in the University of California system in 2005 (Wadhwa, Saxenian, Rissing, & Gereffi, 2007; University of California Office of the President, 2005). Nationally, Chinese Americans are leaving their mark in becoming trailblazers for the broader Asian American community and other minorities, including former Washington state governor, Gary Locke, the first governor of Chinese descent in the US, and Dr. David Ho, who was recognized as Time Magazine Man of the Year in 1996 for his breakthrough research in AIDS cocktails.

Given the remarkable contributions of the Chinese in America, however, there are also enormous differences in levels of acculturation, assimilation, and
socioeconomic status within the community that result in health disparities and inadequate attention on social resources, as the literature review demonstrates. For the purpose of this dissertation research, participants who consider their ethnic identity to be of Chinese descent were included. The terms Asian Pacific Islander (API) and Asian Americans has also been used interchangeably, a trend that is reflected in research literature and in the broader Asian American community.

C. HIV/AIDS among Asian Pacific Islanders

1. Current Epidemiological Data

On a global scale, women currently represent 43% of all adults with HIV/AIDS. Women are biologically disadvantaged when it comes to HIV infection, as their risk from unprotected sex with HIV-positive men is 12 times greater than the risk to men of having unprotected sex with HIV-positive women. Women are also exposed earlier, diagnosed later, and have higher mortality rates (UNAIDS, 2004).

Furthermore, HIV prevention methods differ between men and women, as the primary method of preventing sexual transmission through condom use is a male-controlled measure. This concern is intersected with many other health issues such as sexual and domestic violence, making it critical to find other effective prevention strategies.

In the US, the Centers for Disease Control estimated that by the end of 2003, there were 1,039,000 to 1,185,000 individuals living with HIV/AIDS, with approximately 40,000 new infections each year (CDC, 2007). Men are disproportionately affected, making up nearly three-fourths (74%) of all cases, with the primary mode of infection being male-to-male sexual contact. Females make up the remaining 24%, and were primarily infected through heterosexual contact (80%).
followed by injection drug use (19%). It is important to note that these figures may not reflect the true epidemic, given that data were derived from just 33 states that participated in confidential name-based reporting. The database does not include states with more concentrated epidemics such as California and New York.

HIV/AIDS also disproportionately affects minority communities, with African Americans accounting for nearly half of all cases (49%), though only constituting 12% of the total population. This pronounced disparity is also evidenced in HIV diagnosis rates among Black and White women, the extent of which does not exist with any other major disease (McDavid, Li, & Lee, 2006). Another example of racial disparities is substantiated in a study comparing STD and HIV risk among White and Black young adults. While White young adults are at higher risks of STDs and HIV infection only when engaging in high-risk behaviors, Black young adults are at higher risks of STDs and HIV infection even when engaging in normative behaviors. In light of this finding, researchers recommend individual level prevention efforts such as encouraging annual STD screenings for Whites, while population level interventions are recommended for Blacks such as media educational campaigns and offering free universal STD screenings (Hallfors, Iritani, Miller, & Bauer, 2007).

As noted, APIs make up 1% of total AIDS cases in the US. Of that 1%, 42% are in California, followed by New York and Hawaii, reflective of the general demographic patterns of where APIs reside (Zaidi, Crepaz, Song, Wan, Lin, Hu, et al., 2005). CDC’s most recent statistics report that the incidence of HIV/AIDS increased among APIs from 2001-2004 but declined for all other racial groups, though there was no commentary to be found regarding these new data (CDC Morbidity and Mortality
Weekly Report, 2006). APIs are significantly less likely to report being tested for HIV, 32.6% compared to 43.5% for other racial groups (Zaidi et al., 2005). When they are tested, however, illness was found to be the main reason for electing testing among HIV positive APIs (Wong, Campsmith, Nakamura, Crepaz, & Begley, 2004).

Very little is known about HIV infection patterns among API women, though heterosexual contact is the main risk, or about 75% of all cases (Zaidi et al., 2005; Wortley, Metler, Hu, & Fleming, 2000). Furthermore, 18% of cumulative cases and 42% of new AIDS cases among API women fall in the category of “risk not identified,” higher than any other ethnic group (Darbes, Kennedy, Peersman, Zohrabyan, & Rutherford, 2002). Chinese account for 12% of cumulative AIDS incidences of APIs in the US.

2. HIV Prevention among API Women

a. Limited research. In the research literature, APIs are an underserved and understudied group in the US, with only 0.2% of all federal health-related grants and 0.01% of all published research directly involving this group (Ghosh, 2003; Wong et al., 2004). Furthermore, only 2% of published reproductive and sexual health articles focus on API women, compared to 4% for Native Americans, 18% for Latinos, 35% for African Americans, and 41% for Whites (NAPAWF, 2005). The authors of a systematic review of HIV behavioral interventions concluded that there is a need to focus attention on heterosexual API women, while other researchers have noted a paucity of studies on women and HIV/AIDS in Chinese communities (Darbes et al., 2002; Tang, Wong, & Lee, 2001).
Moreover, sociocultural factors such as cultural norms that are considered in HIV prevention efforts are more effective among ethnic minority communities than programs that are not culturally grounded (Hoban & Ward, 2003). For example, the role of family is an important component in many API cultures and should be addressed in a culturally competent manner.

Four studies, all qualitative in nature, that focus specifically on API women and HIV/AIDS have been identified: three studies assessed prevention needs and risk, and one study on risk behaviors of API sex workers (Jemmott, Maula, & Bush, 1999; Chin, 1999; Cooper, Loue, & Lloyd, 2001; Nemoto, Iwamoto, Oh, Wong, & Nguyen, 2005). In one study, API women stressed the importance of understanding the API family and culture, along with the need for HIV prevention efforts to address issues of acculturation and immigration in their community (Jemmott et al., 1999). Another study examined how API women assessed their HIV risk in sexual interactions, and found that sexual schemata, defined as how one thinks about oneself in a sexual context, influenced their perceived sexual risk (Chin, 1999). Study results indicated that API women generally engage in non-explicit assessments because cultural values discourage open discussions with their partners about HIV in regard to requesting condom use and HIV testing. Higher level of acculturation has also been found to impact risky sexual behaviors among API women, such that more acculturated women hold more liberal views toward premarital sex and communication on sexuality (Cooper et al., 2001). API sex workers were found to have misperceptions of risk for HIV and STD infection, and consequently engage in unprotected sex with their clients (Nemoto et al., 2005).
b. Risk Factors. Although healthcare providers usually perceive API women as a population with few health issues and not at risk for HIV infection, API women are at risk of HIV for a number of unique reasons (APIAHF, 2003). Risk factors, such as social isolation, limited English proficiency, lack of familiarity and comfort with American institutions, cultural insensitivity of service providers, and burdensome work and family responsibilities, which takes precedence over their own health, serve as barriers to obtaining HIV prevention information and to learning their HIV status through testing (Scott, Gillam, & Braxton, 2005). API women are also more likely to face barriers when seeking healthcare, such as lack of health insurance and linguistic and culturally appropriate care (Ro, 2002).

c. Perceived Susceptibility. Perceived susceptibility, a construct of the health belief model shows how a person’s perception on the risk of contracting a health condition, is an important predictor of HIV prevention behavior. Factors, including education level greater than high school, age 30 or older, participation in risk behaviors, and knowing an HIV-positive person, were found to be significant predictors of greater perceived susceptibility among a group of API women in San Diego (Cooper et al., 2001). Participants who knew an HIV-positive person was almost four times more likely to perceive susceptibility to infection, shedding light into the fact that personal connectedness has a significant impact on APIs.

3. HIV Prevention among API College Students

a. HIV Knowledge. Assessing knowledge and attitudes towards HIV/AIDS is essential in understanding how to build effective prevention programs. For API college students, research in this area has shown inconsistent results. A recent
study on heterosexual API college students reported that respondents lack basic information about transmission, risk, and prevention of HIV infection (So, Wong, & DeLeon, 2005). The authors found that increased acculturation through the combination of college attendance, English language acquisition, and American entertainment increased API students’ likelihood of engaging in sexual activities, including unprotected sex and lack of condom use, more than their non-Asian peers. In a disaggregated study, Vietnamese American college students in Texas revealed that most were aware of the major modes of HIV transmission and risk reduction methods, though respondents also reported misconceptions and being uncomfortable discussing HIV and safer sex concerns with their partners (Yi, 1998). Among a cohort of community college students in Orange County, California, Asian students showed the lowest level of knowledge and concern about HIV compared to other ethnic groups (Shapiro, Radecki, Charchian, & Josephson, 1999).

b. Condom Use. Condom use is considered one of the most effective behavior strategies in reducing the risk of HIV infection. Thus, negotiation of condom usage is a widely studied topic. In an examination of condom negotiation strategies among heterosexual Asian and White college students, researchers found that Asians of both genders used verbal-indirect strategies such as dropping hints through the use of persuasion more than Whites (Lam, Mak, Lindsay, & Russell, 2004). Women were significantly more likely than men to use nonverbal-indirect strategies, such as placing a condom on the dresser. These are important findings to consider when planning HIV prevention programs that seek to be culturally sensitive to Asians and women. In a follow-up study on Chinese and Filipina college women, results indicate that partner
ethnicity and age affect Asian women’s use of negotiation strategies. Asian women used more nonverbal-direct strategies with non-Asian partners, such as handing a condom to a partner, and those with older partners were less likely to use verbal strategies (Lam & Barnhart, 2006).

c. Self-efficacy. Lin, Simoni, and Zemon (2005) conducted the first study of HIV/AIDS knowledge and sexual behaviors among Taiwanese American college students, and found that greater self-efficacy was significantly associated with fewer sexual partners, lower sexual intercourse frequency, and greater consistency of condom use. This study presents meaningful results in that researchers focused on one specific ethnic group of APIs, thereby presenting disaggregated data. Taiwanese Americans are different from other API ethnic groups, including other Chinese, due to different patterns of immigration, are typically of higher socioeconomic status, and originate from a high economically and politically developed country (APIAHF, 2005). These differences exemplify the heterogeneity of the Chinese American community. Hence, these, findings cannot be generalized to other API groups.

4. Sexual Behavior among API Youth

Although this research proposal focuses on college students, it is important to examine research conducted among adolescents to assess the knowledge, attitudes, and strategies that have been implemented for this age group in order to understand issues that need to be addressed at the next developmental stage of young adulthood. The following are three studies that examined sexual health practices and attitudes among API adolescents.
Schuster and colleagues (1998) conducted a large study on sexual practices of adolescents in Los Angeles that included 186 students who identified as APIs. Results indicate that API adolescents are less likely to engage in vaginal intercourse than students of other racial backgrounds, and among those that have engaged in sexual activity, they engaged in less genital sexual activity of any sort. APIs were more likely to expect parental disapproval if they had vaginal intercourse, and less likely to think that their peers also had vaginal intercourse. This finding supports the notion that the role of family plays a significant part in the decision making of API adolescents, particularly within the context of sexual behaviors.

Using data from the National Longitudinal Study of Adolescent Health, Hahm and colleagues (2006) examined gender and acculturation differences from two waves of data on 689 API adolescents. Acculturation was assessed by placing respondents in four groups according to acculturation levels using English spoken at home and American-born versus foreign-born as variables. The study results revealed that approximately 24% of young API females and 20% of young API males had engaged in sexual intercourse, and that more acculturated females were nearly five times more likely to have had sexual intercourse than less acculturated. Additionally, Western cultural values have a greater influence on sexuality of young Asian women than on young Asian men.

The Southeast Asian population, one of the newest immigrant groups of Asian Americans, is much smaller in number, and as a result is rarely studied. In one of the first studies on this ethnic group, the role of age, gender, peer, family, and culture on risky sexual behavior of Cambodian and Lao/Mien adolescents was examined (Le &
Kato, 2006). Results revealed that peer delinquency and older age were significant predictors of risky sexual behavior for both ethnic groups studied. Interestingly, acculturation was not a significant factor associated with sexual behavior for either group, which may be explained by the fact that the sample consisted primarily of second-generation adolescents, who were likely more acculturated.

5. **HIV among APIs and its Connection to China**

Increasing our understanding of HIV risk behaviors and the cultural aspects of Chinese Americans may have implications for the emerging HIV epidemic in Asia, particularly in mainland China. As the world’s most populous nation, China is undergoing remarkable developments in economic, technological, and social arenas, particularly in the last 25 years since the introduction of its Open Door Policy. Such rapid transformations have also contributed to a new public health crisis: the emergence of an HIV/AIDS epidemic.

UNAIDS currently estimates that there are approximately 840,000 cases of HIV/AIDS in China, 22% of which are women. Many researchers, however, consider this to be an underestimate, given China’s lack of a reliable surveillance system and recent acknowledgement of the problem. Stigma and discrimination present some of the most challenging barriers in addressing the prevention of HIV infection and care and treatment for those already infected. Heterosexual transmission is expected to become the primary mode of HIV transmission that will continue to fuel the epidemic if significant progress is not made in the coming years (Wu, Rou, & Cui, 2004). There has not been enough research to establish a link between recent increases of HIV incidences of Chinese in the US to the epidemic in China. Nonetheless, this is a still an
important consideration to keep in mind given the continuing immigration and increase in tourism and travel among family members and business people across the Pacific.

D. HIV Prevention among College Students

There are approximately 17 million college students in the US, 59% of whom are in the traditional college age range of 18-24 (U.S. Department of Education, 2006). Approximately one-quarter of the US population aged 18-24 are enrolled in a college or university (Koumans, Sternberg, Motamed, Kohl, Schllinger, & Markowitz, 2005). Females now make up the majority, with 57% of the total population in US institutions of higher learning, while Asian American students make up 6.4% (U.S. Department of Education, 2005).

College students have not been a priority in the public health field because of their more advantageous educational and economic status and their relatively low death and disease rates (using traditional indicators of leading causes of death). In publications examining risk factors and behaviors that are the ‘real’ causes of death such as tobacco and diet, however, college students have received more public health attention. As of 2000, sexual behavior ranked eighth on a top 10 list for the general population, resulting in approximately 20,000 deaths per year (Mokdad, Marks, Stroup, & Gerberding, 2004). Despite the lack of national attention, the American College Health Association (ACHA) realized the impact of risky sexual behavior and has addressed this issue early on in the HIV/AIDS epidemic with the creation of the ACHA Task Force on HIV Disease in 1985. The purpose of the Task Force, which now falls under the auspices of the STIs Ad Hoc Committee of ACHA, is to address sexual
health behavior issues to support the broader mission of the organization and to advance college health.

While college is a time of transition from adolescence to adulthood for many students, it is also a time for exploration and experimentation, a time when they develop habits that can have lasting impact. College students are a sexually active cohort, with 86% having had intercourse in their lifetime, while 68% reported current sexual activity, defined as sexual intercourse during the 3 months preceding the survey (Koumans et al., 2005). ACHA estimates that about 1 out of 500 college students (.002%) are infected with HIV. Further, an HIV outbreak in 53 male college students in North Carolina in 2003 reinforced the need for prevention efforts on campus. Responsible sexual health is the fifth leading health indicator outlined in Healthy Campus 2010, a set of national health objectives for college students based on Healthy People 2010. Since college campuses have a responsibility to promote healthy behaviors and create environments that support health, they are encouraged to play a proactive role in HIV prevention by offering testing and counseling services.

A review of 34 empirical studies that addressed psychosocial correlates of HIV risk among heterosexual college students from 1988–1995 concluded that condom usage was low, while demonstration of negative attitudes about condoms were high. Results also showed that students possessed a relatively moderate to high level of HIV/AIDS knowledge, though there were misperceptions about HIV transmission, perceived susceptibility to HIV was minimal, and sexual communication with partners about safer sex and condom use was low. Bruce and Walker (2001) conducted a survey from 1986-2000 on college students’ attitudes about AIDS, and their results also
indicate a low perception of personal susceptibility to HIV. Another study of students attending a private California university indicates a high level of HIV knowledge among respondents, with 94% having had coursework that included HIV prevention education (Chernoff & Davison, 2005). Researchers have also found that most effective educational methods of changing behavior among college-aged have not been carefully studied (Koumans et al., 2005). As the number of students matriculating to college rise, particularly among ethnic minority communities and females, there is a need for more culturally-based and gender-specific research on HIV prevention for this demographic.

E. HIV Testing in the United States

1. HIV Testing Trends Nationally and in California

HIV testing is the cornerstone to a comprehensive approach to the prevention of HIV/AIDS, serving as a bridge between early diagnosis and treatment and care. The first test for HIV was made available to the American public in 1985; 4 years after the first AIDS cases were reported. Community efforts to encourage testing primarily targeted the men who have sex with men (MSM) and intravenous drug users (IDU) populations at the beginning of the epidemic. Approximately 16-22 million people get tested annually in both public and private testing sites, including public health clinics, private doctors’ offices, and hospital inpatient settings (CDC, 2006). The percentage of Americans who seek testing varies widely, with CDC estimates standing at 38%-44% of all adults. A more in-depth analysis of testing rates and factors that influence testing behavior from national data and specific populations is reviewed below.
Data on HIV testing differ across populations, geographic areas, and by type of survey conducted. Data from the 1998 National Health Interview Survey (NHIS) show that 31.2% of adults reported ever being tested, with that figure increasing to 34.7% in 2002 (Inungu, Quist-Adade, Beach, Cook, & Lamerato, 2005). Of those who got tested during that same time period, the proportion of women testing increased from 56.9% to 60.2%, while the proportion of men decreased from 43.1% to 39.8%. The young adult population, defined as individuals aged 18-24, did not report a significant change, with testing rates at 12.2% in 1998 to 11.5% 4 years later. More recently, the 2004 NHIS reported that approximately 35% of Americans have ever been tested (U.S. DHHS, 2006). Once again, women reported higher rates compared to men, at 37.3% and 31.7% respectively, and also reported their first test at a younger age. Approximately 40.3% of young adults have ever obtained an HIV test. Data obtained from the National Longitudinal Study of Adolescent Health reported that young adults, defined in this case as 18-26 year olds, had an 18.8% testing prevalence in the past year, with more women testing than men, 22.5% versus 15.2%, respectively (Nguyen, Ford, Kaufman, Leone, Suchindran, & Miller, 2006).

In a 2000 CDC HIV/AIDS Special Surveillance Report on the HIV Testing Survey (HITS survey), results indicate that 74% of respondents reported ever been tested, with 47% reported testing in the past year (CDC, 2003). Among respondents recruited from STD clinics, 82% of women reported ever being tested compared to 67% of men, while 62% of young adults reported a lifetime history of testing. It is important to note, however, that the HITS survey only focused on three groups at high
risk for infection and included seven states and one city as study sites. This may likely explain the much higher rates of testing.

As the most populous state in the nation, California is at the forefront of the AIDS epidemic on many levels. Characterized by having a high proportion of cumulative AIDS cases (144,785 cumulative cases as of March 2007), California is a leader in advancing research on prevention and treatment and in demonstrating the social and political will to combat this disease (CA Office of AIDS, 2007). The first cases of AIDS in the US were reported in three hospitals in Los Angeles in 1981. Los Angeles has since emerged in sharing the distinction with San Francisco as being among the largest epicenters of the crisis today. The state’s Department of Health Services’ Office of AIDS (OA) provides coordination for the prevention, epidemiology, and care of HIV/AIDS, including HIV counseling and testing services. Each year, OA provides more than 180,000 tests statewide, for which sexual activity is the primary route of HIV transmission for its testing clients. The 2004 annual counseling and testing report indicate that 24% of those who tested were 20-29 year olds. Approximately 6% of APIs tested for HIV, and accounted for 3% of positive test results. These figures, however, only account for HIV tests that are funded by OA’s anonymous and confidential testing programs. These numbers may not reflect an accurate epidemiological picture of APIs who tested for HIV in confidential settings.

The most recent California Health Interview Survey reported that 63.5% of the general population in the state reported ever testing for HIV (Holtby, Zahnd, McCain, Chia, & Kurata, 2006). Figures for the 18-24 year old group reflect that of the general California state population, standing at 65.5%, but much higher than the general U.S.
population or young adults outside of California. APIs reported a slightly higher testing rate of 69%, while the Chinese ethnic group reported a lower rate of 61.1%. These figures are derived from a cross-sectional survey in which respondents were tested at various locations, including public clinics, private doctors’ offices, or at hospitals. In a study on the determinants of HIV status for populations that accessed the state’s HIV testing program, having an HIV positive sexual partner was found to be most strongly associated with HIV infection (California State Office of AIDS, 2004). API women were at an even higher elevated risk, with the highest odds ratio (24.9) of infection to partner seropositivity, compared to Whites (7.7), than a partner who has an HIV negative serostatus.

Although a controversial issue in itself, HIV testing has received increasing attention, acceptance, and support from the public, policymakers, and other people in influential positions. Moreover, CDC allocates more funding towards testing programs than any other type of prevention effort (DiFranceisco, Pinkerton, Dyatlov, & Swain, 2005). People of great influence and celebrities have publicly taken the HIV test to demonstrate their support and challenge the stigma surrounding this issue, including such figures as Oprah Winfrey, singer and AIDS activist Bono of U2, and Miss Universe 2005. The very public disclosure of basketball star Magic Johnson in 1992 as a heterosexual African American man with HIV was seen as a major turning point in public perception, susceptibility, and changes in testing prevalence among Americans, particularly in minority communities. Furthermore, a Kaiser Family Foundation survey found that about two-thirds of the public support routine HIV testing, while 27%
reported that testing should be based on an opt-in basis, which requires written consent (Kaiser Family Foundation, 2006).

HIV testing remains a critical component to the spectrum of HIV prevention, and is the only certain method for identification of the disease. Specific disaggregated data for ethnic groups and in particularly APIs, however, remain limited. Given that California will now join national efforts in reporting requirements, there is now capacity, support, and a stronger need to examine testing trends for Chinese/Chinese American college women.

2. HIV Testing Trends among College Students

A number of studies have been conducted on the impact of HIV testing among college students, the benefits of testing, and support of such services on campus. Research indicates that students are more likely to seek testing if it is available on campus, supporting the notion that college campuses are an ideal place to provide such services (Anastasi, Sawyer, & Pinciaro, 1999). Campuses, in fact, have been doing well in this area, as indicated by a recent survey on the availability of STD services at US colleges and universities. In a stratified random sampling of 736 campuses across the nation, 60% of schools reported the presence of a health center on campus, with 78% of those campuses offering HIV testing (Koumans et al., 2005). Two-year schools (e.g., community colleges) reported an even higher rate (86%) of offering testing services. Although there is a low prevalence of positive test results (almost zero levels of seropositivity), high demand for such services on campus continues (Anastasi et al., 1999).
A wide range of estimates is used to describe the HIV testing rates among the college population. In one study conducted on an east coast campus, 23% of undergraduates reported previous HIV testing, with higher rates as the years of college attendance increased. Among those tested, 14% reported testing prior to initiation of sexual activity with their partner at the time, while 9% reported testing after the present relationship had begun (Siegel, Klein, & Roghmann, 1999). Students tend to believe they have minimal personal risk for contracting HIV (Opt & Loffredo, 2004). In a descriptive study of 255 students on another east coast campus who voluntarily sought an HIV test, about one-third had been previously tested, although the majority (nearly 75%) perceived themselves at low or extremely low risk for HIV (Anastasi et al., 1999). One study found that, among college students in a Southeastern campus, 20.1% have been previously tested, while 39.5% have asked their partner’s HIV status (Hou, 2007).

A number of studies on HIV testing among college students in California have emerged in recent years, a state with the most sophisticated and largest infrastructure for institutions of higher learning. One study conducted at two large southern California campuses reported that 21% of students sampled had been tested for HIV (Marelich & Clark, 2004). Another study on first year students at a California State campus reported that female students tested more often than their male counterparts, 24% compared to 19%, respectively (Flannery & Ellingson, 2003). Among a cohort of community college students in Orange County, California, 30% reported previous testing. A high proportion (58%) of respondents also indicated that they intend to get
tested in the near future, with 25% reporting that their partners have been tested (Shapiro et al., 1999).

The benefits of HIV testing among college students have received mixed results. In a study on the socio-cultural meaning of an HIV test, researchers found that testing is perceived as providing important social currency in negotiating sexual relationships, as a symbolic closure or commencement of a sexual relationship (Lupton, McCarthy, & Chapman, 1995). Students also view one’s serostatus as privileged knowledge and demonstrating a sense of responsibility of being in a relationship. A study among Jamaican college students found that testing was not associated with protective sexual behaviors (Norman & Gebre, 2005). The majority of students who reported a relatively high rate of inconsistent condom use with most recent steady sex partner (79.2%) and singles with multiple sexual partners (71.3%) sought HIV testing.

A web-based survey using psychosocial constructs to predict intention of HIV testing found that only 7.7% of students expressed intention to test with perceived benefits and risks being statistically significant factors (Hou & Wisenbaker, 2005). Furthermore, perception of low risk was prevalent among students who have never tested. In another exploratory study, students who were more likely to seek HIV testing were characterized as being 20 years or older, female, a member of a racial/ethnic minority group, becoming sexually active at a younger age, and having four or more sexual partners (Crosby, Miller, Staten, & Noland, 2005).

Examining reasons for testing is an important component in understanding the sociocultural context of the HIV testing process. The influence of peers was found to be a motivating factor for students who decided to test (Anastasi et al., 1999).
"Friend/peer" was the most common factor that influenced students' testing decision, followed by "school/college/vocational" and lastly "sexual partner." Students indicated their main reasons for testing included the fact that they just wanted to know, had unprotected sex, and was starting a sexual relationship. A survey of students attending a private, church-affiliated college found that routine check-ups, blood donation, and unprotected sex were primary reasons they seek testing (Opt et al., 2004). Although there continues to be increasing focus on examining college students' HIV testing behaviors, there remain significant ethnic groups that are understudied. This study has sought to fill a research gap in the area of testing trends of Chinese/Chinese American college students, particularly at the community college level in a heavily concentrated Chinese geographic area.

3. HIV Testing Trends among APIs

There is a paucity of research on HIV testing among APIs since the beginning of the AIDS epidemic. Among the few studies that have surfaced, however, most have suffered from small sample sizes, unclear research questions, or have weak theoretical grounding (Wong et al., 2004). Researchers have suggested that the impact of social discrimination and stigma affecting HIV testing among APIs may be valuable information for developing effective HIV prevention programs (Kahle, Freedman, & Buskin, 2005). This is particularly critical for a community with diverse levels of acculturation and where there are strong cultural prohibitions discouraging the discussion of sex or revealing sexual problems to anyone outside the family (Scott et al., 2005).
HIV testing rates among APIs vary widely. In the only published study identified that specifically focused on HIV testing behaviors among this group, 47% of respondents indicated testing in the past year. It is important to bear in mind, however, that this survey targeted three populations with the highest risk factors residing in the Northwest region of the US. Among those tested, 48% reported "unsafe behavior" while 49% had any perceived risk. Other studies that report testing rates among API were analyzed using larger data sets. In 2004, the NHIS reported that, at 33%, Asian women had the lowest testing rate than any other ethnic group (U.S. DHHS, 2006). Data obtained from the National Longitudinal Study of Adolescent Health reported that only 10.8% of young API adults ages 18-26 tested for HIV, compared to 18.7% of Whites (Nguyen et al., 2006).

For API women, one study conducted in San Diego found that 18% of respondents reported having previously been screened for HIV (Cooper et al., 2001). Some API women do request an HIV test when they suspect their partners to be untrustworthy. In the event that their partners refuse to undergo testing, however, API women continue to have unprotected sex because they are already emotionally involved in the relationship (Chin, 1999). Furthermore, when women think about HIV in the context of their personal experience (such as remembering an occasion where a condom was not used during sexual intercourse), they cite more and better reasons to obtain an HIV test, such as uncertainty about a partner's sexual history. Given that 40% of HIV infections among API women are of unknown mode of transmission or risk-not-identified, it is important to further direct more effort towards this end (Darbes et al., 2002).
4. New HIV Testing Guidelines

CDC recently released new guidelines in 2006 recommending routine HIV screening of all individuals aged 13-64 in healthcare settings on an opt-out basis, which means that HIV screening will be performed after notifying the patient unless the patient elects to decline or defer testing (CDC MMWR, 2006). The implications for this new recommendation remains to be seen, including a timetable in which public health and private clinics will be able to implement such practices. Justification for the introduction of these new guidelines are to increase early detection of HIV infected individuals so that they can begin treatment and lead productive lives, to reduce the likelihood of further transmission, and to increase cost-effectiveness.

Recommendations for routine, voluntary screening are supported by the authors of two major articles published in 2005, who concluded that screening programs are cost-effective, including a one-time screening among the general population, as well as improved average survival time among HIV-infected individuals (Walensky, Weinstein, Kimmel, Seage, Losina, Sax, Zhang, Smith, Freedberg, & Paltiel, 2005; Paltiel, Weinstein, Kimmel, Seage, Losina, Zhang, Freedberg, & Walensky, 2005). This also has significant implications for minority and marginalized communities in that normalizing testing as part of routine clinical care will help to address issues of stigma and discrimination. The new proposal falls between controversial debates of voluntary versus mandatory testing policies, and thus may result in providers interested in implementing CDC’s new guidelines and increased awareness among the general population to get tested.
F. Partner Communication and Relationship Status

1. Relationship Status and its Classification

Given that college years are devoted to exploration and personal growth for an overwhelming majority of students, it is critical to examine dating relationships and the impact it has on sexual health. Research indicates that the nature of such partnerships and degree of commitment in relationships influence sexual behavior in general, and more specific behaviors like condom use (Marston & King, 2006; Civic, 1999; Lescano, Vasquez, Brown, Litvin, Pugatch, & Project SHIELD Study Group, 2006). There are also gender differences in the perception of relationships, such as dating outcomes and personal needs. For example, in regards to sexual relationships, women tend to focus on love, intimacy, and emotional aspects, while men think about the instrumental need and physical pleasure (Wong & Tang, 2001; Lescano et al., 2006).

Throughout the literature, there appears to be two primary categories of describing sexual partnerships: casual and committed partners/relationships, with some variations in-between. A wide of assortment of terms indicating similar meanings or nature of the partnership include “casual” or “occasional” for the former category, and “committed,” “main, “steady,” “primary,” “serious,” and “regular” for the latter. Casual partners can be defined as “anyone you have sex with but do not consider to be a main partner to you” or “sex that is not a part of a long-term or committed relationship” (Lescano et al., 2006; California State Office of AIDS, 2005).

In contrast, a main or committed partner is considered to be “someone you have sex with and you consider to be the person you are serious about,” “someone with
whom you have an ongoing relationship, like a spouse, lover, boyfriend, or girlfriend,” or “being in a monogamous relationship” (Lescano et al., 2006). Another method of investigating partnership type is asking respondents to rate their partners along a continuum of familiarity and intimacy, such as “just met” to “spouse.” It is well documented that individuals have unprotected sex more often with their main partners than non-main partners, and that decisions regarding safer sex are also markedly different between the two categories and levels of commitment (Catania, Coates, Kegeles, Thompson Fullilove, Peterson, Marin, et al., 1992; Civic, 1999; Amaro, Morill, Dai, Cabral, & Raj, 2005).

Length and level of commitment are essential characteristics in examining relationships. This is particularly important, because younger individuals tend to have shorter lengths of relationships, including shorter gaps between relationships, an important determinant in sexually transmitted diseases (Foxman, Newman, Percha, Holmes, & Aral, 2006). Finding a new partner while still in the infectious period of many STDs, including HIV, may impact exposure and infection. The trend in short-termed relationships has been described as “serial monogamy” by some researchers, defined as one short-term relationship after another (Morrill & Noland, 2006). AIDS prevention messages have primarily focused on main-partner relationships, focusing on “knowing your partner” and emphasizing monogamous types of relationships, which may have contributed to individuals engaging in risky sexual behaviors with their main albeit short-term partners (Amaro et al., 2005).

The level of comfort and protection in a sexual relationship also differs depending on the type of relationship. Hong and colleagues (2006) found that
individuals involved in a committed relationship with a serodiscordant main partner may be more altruistically motivated to protect their partners than with casual partners, and perhaps be more inclined to have safer sex such as always using a condom. In contrast, however, Chin (1999) found that individuals tapered off in self-protective behaviors as the amount of time spent with a partner increases. Condoms were used less often as the relationship progressed, which may partially be due to strengthened intimacy and comfort. Moreover, there are differences in the communication patterns between casual versus committed partnerships (Troth & Peterson, 2000).

The college years serve as both an entry and opportune time for young adults to cultivate and experience romantic and sexual dating relationships. Research on relationship status and how it impacts sexual health decisions of Chinese/Chinese American college students is limited; thus the research makes an important contribution to the literature.

2. Partner Communication

Researchers have consistently found that sexual communication skills are influential in the adoption of protective behaviors such as condom use and other contraceptive use (Catania et al., 1992; Powell & Segrin, 2004; Mercer, Wellings, Macdowall, Copas, McManus, Erens, Fenton, & Johnson, 2006). Klein and colleagues (2004) found that as sexual communication skills increase, so does the rate of sexual protection. Widman and colleagues (2006) suggested that factors such as types of relationship, satisfaction, and commitment level predict how open couples are to sexual communication. The researchers noted that it is unlikely that explicit sexual communication will take place in the early developmental stages of the relationship.
They also noted that there is a positive association between relationship satisfaction and sexual communication.

The level of comfort is also an important characteristic to consider in partner communication. One study among Latino adolescents indicated that comfort in communication is associated with safer sexual behaviors, an increased intention to delay intercourse, and older age of sexual initiation (Guzman, Schlehoffer-Sutton, Villanueva, Stritto, Casad, & Feria, 2003). Young people and women may sometimes avoid communicating about sex because of social norms, power differentials, and culturally defined gender roles (Quadagno, Sly, Harrison, Eberstein, & Soler, 1998; Marston & King, 2006).

There is limited research on the association between partner communication and whether it serves as a protective or risk factor in HIV prevention. One study reported that communication among dating partners about sexuality was found to be a significant predictor of communication with dating partner about HIV/AIDS (Powell & Segrin, 2004). One research study out of India found that the reluctance to talk openly about sex and sexual behavior, even between spouses, is the most commonly cited barrier to controlling the transmission of HIV (Lambert & Wood, 2005). A study of “at risk” women found that lack of partner communication predicted a greater degree of HIV risk behaviors in these women (Klein et al., 2004). Women who communicated less with their dating or sexual partners engaged in activities that put them at risk for HIV. Younger women communicated less often than their older counterparts, though single women communicated more often than their married counterparts. In regards to
the length of relationship, women who were involved with shorter-term partners communicated more.

Research studies focused specifically on college students and their communication patterns about sexual health with their partners have been inconsistent, while the benefits of communication about sexual health remain inconclusive. For example, communication about AIDS is not necessarily an indication of effective HIV prevention. Cline and colleagues (1992) found that communication between students and their partners about AIDS does not serve as a precursor to condom use, and perhaps even provide a false sense of security. Another study of college students, however, found that communication with sexual partners may actually be an important "sexual behavior" change in and of itself. Students who received education about HIV infection, coupled with an HIV test, increased communication with their sexual partners about the risk of HIV 6 months following intervention (Wenger, Linn, Epstein, & Shapiro, 1991).

One study of college students on a commuter campus reported a high rate (75%) of communication with their partners, indicating that the majority of students discussed HIV prevention with their sexual partners, with women reporting practice of and acknowledging importance of communication significantly more often than men (Prince & Bernard 1998). In another study, women also reported more communication about sexual intercourse with their first partner before initiation of sex (Siegel et al., 1999). A survey of students at a private university in California revealed that 60% of respondents had discussed safer sex with their partner, a largely underestimated behavior, as respondents estimated that only 40% of their peers would engage in
conversation of this nature (Chernoff & Davison, 2005). In one survey of college students in the southeast region of the US, results indicate that students who obtained an HIV test were more likely (78%) to inquire about a partner’s HIV status, and also had higher perceived risk levels compared to those who have never tested (Hou, 2003).

Two articles have been published on research conducted at four major university campuses in Northern California which addressed partner communication among API women (mentioned in an earlier section of this literature review). Lam and colleagues’ (2004) examination of condom negotiation strategies among Asian and White college students found that Asians use verbal-indirect strategies more than Whites. In a follow up study, researchers looked at the role of partner ethnicity and age on condom negotiations. Results indicate that Asian women use more nonverbal-direct strategies with non-Asian partners, and those with older partners are less likely to use verbal strategies (Lam & Barnhart, 2006). Both of these studies were exploratory in nature, and suffered from low response rates and use of liberal parameters (e.g., p value of 0.10) in detecting significance. The studies nonetheless provide insight into an area sorely lacking attention, namely sexual communication among API women, providing a foundation and justification for further studies.

The studies on partner communication and relationship status discussed here shed light into important aspects to consider when examining sexual health behavior and its impact. Health education efforts geared towards improving communication and negotiation skills of women in their sexual and romantic partnerships may help to facilitate more egalitarian relationships, making it a potentially effective HIV prevention strategy (Klein et al., 2004).
In the 25 years since the emergence of the HIV/AIDS epidemic, research efforts to combat this disease has evolved from early detection to testing, care, treatment, and vaccine development. Yet, prevention and education remain the most promising strategies toward the goal of global eradication. Although APIs make up a small proportion of the American population, they are one of the fastest growing demographics. HIV prevention research among this group is not only limited in number, but also in scope and its generalizability. Efforts at the national and state level (at least in California) are currently underway to improve collection and coordination of demographic data, specifically the disaggregation of data. Focusing on one specific ethnic API subgroup, such as Chinese/Chinese Americans, helps further advance the broader goal as well as make research findings more applicable. Furthermore, the ‘Millennial’ generation of students in which this research focused on began arriving on college campuses in 2000, a time when the scientific and public health community have made considerable progress in HIV/AIDS research, and the focus of prevention has subsequently shifted. The literature review presented here provides a solid foundation to continue the much needed research to examine HIV testing patterns and partner communication among Chinese/Chinese American community college women.
CHAPTER 3

METHOD

A. Study Design

This research was an exploratory, descriptive, cross-sectional study design that used mixed methods to investigate partner communication and factors that influence the decision to obtain an HIV test among Chinese American community college students in Northern California. The study was conducted in two phases using qualitative and quantitative methods and was based on constructs of the HBM. In the qualitative phase, an open-ended questionnaire was administered to two focus groups on two of the four selected campuses: Ohlone College in Alameda County and City College of San Francisco in San Francisco County. Both campuses have active HIV prevention outreach programs including weekly HIV testing clinics that helped increase access to potential study participants for the focus groups. There were 6 students that participated in each of the focus groups. Data derived from the focus groups was used to assist in the development of the questionnaire that was used in the quantitative phase.

The quantitative phase consisted of a web-based and paper-pencil survey, which provided an anonymous venue/way for students to complete the questionnaire. The use of a web-based tool was selected because participants tend to provide more candid responses using technology than when interacting with a human interviewer (Kiene & Barta, 2006). The initial plans of using only a web-based questionnaire did not yield the level of responses desired approximately halfway through the data collection period, so IRB approval was granted to make the paper-pencil version available as well.
Although email addresses of students were collected during recruitment efforts, an email invitation sent may have arrived in the bulk mail folder or students may have not recognized the email sender address and thus believed it was spam mail, resulting in participant attrition. At Ohlone College, however, an email invitation to the survey was sent to all students who identified themselves in their enrollment forms as Chinese, female, and between the ages of 18-24. Ohlone’s Office of Admissions and Records generously provided the list, which generated approximately 207 valid addresses.

SurveyMonkey, a professional online survey software, hosted the questionnaire, providing an affordable and user-friendly mechanism for designing the instrument, collecting responses, and analyzing surveys (for descriptive data; raw data was then exported to an SPSS file for further inferential statistics). During the recruitment process, students were offered the paper-pencil version on the spot. For students who did not have time to complete the survey, we collected their email addresses and the survey link was then sent to them.

B. Study Variables

1. Dependent variables

Dependent variables for this study included HIV testing status and the communication of status disclosure. HIV testing status was a dichotomous variable, categorized as either a history of testing versus no history of testing. Communication of status disclosure was also a dichotomous variable – the presence or absence of communication to current and/or previous partner.
2. Independent variables

Independent variables were in part derived from results of the focus group. Other variables, however, were included to help answer the research questions, including the HBM variables of perceived susceptibility, perceived benefits, perceived barriers, perceived seriousness, self-efficacy; and current or previous relationship status (casual versus committed), time points in the communication of HIV discussion, such as the beginning of a romantic relationship or prior to engaging in a sexual relationship, and cultural factors that promote or discourage partner communication on HIV testing (e.g., cultural norms). Other independent or control variables included sexual history and behavior, age of sexual debut, number of lifetime sexual partners, knowledge of HIV/AIDS, acculturation level, and demographics such as age, ethnic identity (Chinese, Chinese Americans, Taiwanese, Taiwanese Americans), and student status (e.g. international student).

C. Instrumentation

1. Focus Group Instruments

Two instruments were created for the focus groups: the focus group discussion guide and the pre-focus group questionnaire. The focus group guide consisted of four components: (1) background on research study and objectives of the focus group; (2) introductions of facilitators and participants; (3) establishment of ground rules (e.g., confidentiality, respect); and (4) focus group discussion questions. Discussion questions focused on dating experiences of participants, definitions of sex, partner communication on sexual health issues, and HIV testing. The pre-focus group questionnaire was a short one-page instrument that collected background information...
on participant demographics, sexual history, HIV testing history, and perceived
susceptibility to HIV infection (see Appendix A).

2. Web-based Survey Instrument

The quantitative survey instrument was developed based on results of
the focus group and constructs of the health belief model. A review of existing
instruments, including the National College Health Assessment (NCHA), the HIV-
antibody Testing Attitudes Scale, the Suinn-Lew Asian Self-Identity Acculturation
scale, and several other surveys referred to in the literature review were examined prior
to drafting the survey instrument (ACHA, 2003; Boshamer & Bruce, 1999; Suinn,
1995). Experts and student health center providers were asked to review the instrument
and provided feedback. The survey was then pilot tested among 8 student volunteers
with similar backgrounds of the target population, to assess comprehension, clarity, and
the length of time it took to complete the survey.

D. Measurement

1. Demographics, Sexual History, HIV/AIDS Knowledge

The first subset of questions on the quantitative survey included:
demographic questions, sexual history and behavior, and knowledge, attitudes, and
beliefs about HIV/AIDS. Demographic questions included age, ethnic identity, place
of birth, country where respondents were educated during formative years, the number
of years lived in the US, and student status. Other questions in the demographic section
included current relationship status/involvement, length of time of relationship,
ethnicity of current or former dating partners, method of study recruitment, and campus
affiliation. The section on sexual history and behavior included questions regarding
age of sexual debut, number of sexual partners in last year and in lifetime, condom usage and history of STD, history of abnormal pap smears, contraceptive method most often used, and use of emergency contraception. The majority of survey questions were compiled from existing instruments, including standard knowledge, beliefs, and attitude scales on HIV/AIDS.

2. HIV Testing and Partner Communication

To address the key research questions of this study, subset questions on HIV testing history and partner communication on HIV prevention were also included in the instrument. HIV testing history addressed participants' history of testing, number of prior HIV tests, place of testing, reasons for and avoiding testing, and attitudes towards testing. HIV testing and prevention communication questions addressed self and partner serostatus disclosure, time of communication (e.g., prior to sexual activity, after sex), and attitudes on communication about the subject matter. The majority of these items were obtained from existing instruments, while other questions were developed by the student investigator with guidance from dissertation committee members.

The Suinn-Lew Asian Self-Identity (SL-ASIA) scale was included in the survey to measure acculturation levels and further explore the impact of cultural factors on communication patterns. Acculturation may be defined as "a process that can occur when two or more cultures interact together" or a "continuum of cultural affiliation and identity" (Suinn, 1995, p. 6; Estrada & Estrada, 2002, p. 2). The scale has been used in numerous health promotion studies, including HIV prevention among APIs (Lin et al., 2005). SL-ASIA is a 21-item scale of multiple-choice content questions whereby low
scores reflect a high Asian identification or low level of acculturation and high scores reflect a high Western identification or high level of acculturation (scores range from 1 to 5). Individuals scoring in mid-range are recognized as bicultural in that they retain their ethnic heritage and integrate into Western society. The author has acknowledged that acculturation is by no means a linear process, and has subsequently introduced a set of five questions to the original scale. SL-ASIA scale has been validated, although validation has not been conducted on the additional set of questions.

E. Subject Selection

1. Focus Group Subject Selection

Participants for the focus group were selected based on the following criteria: (a) self-identified Chinese or Chinese American; (b) heterosexual females; (c) 18-24 year olds; (d) a student at Ohlone or CCSF; and (e) have had sexual intercourse within the past year.

2. Web-based Survey Instrument Subject Selection

Participants were selected using a convenience sampling technique for ease of access and purposive sampling in order to reach a specific age and ethnic population. There were four reasons why a convenience sampling technique was chosen. First, a specific ethnic and age group was the focus of this study, which makes it difficult to identify qualified participants if a random sampling technique were to be applied. Second, the student investigator had a relationship with staff from the Admissions and Records Office only on one campus, making it impossible to obtain email addresses of potential participants. Limited financial resources also make it difficult to use more sophisticated sampling techniques. Student health center directors
suggested that direct invitations to participate in the study will yield a higher level of cooperation and success. Lastly, it was suggested by a previous researcher who conducted her dissertation on Chinese American college students in the Bay Area that random sampling using email addresses had a much lower response rate (16%; only 200 students out of 1,900 met study criteria, and among those who were randomly selected, a large majority were not sexually active) and that recruitment approach with trusted health center staff will improve participation rates (Amy Lam, personal communication, May 2006).

a. Inclusion Criteria. Study participants were selected using the following criteria: (a) self-identified Chinese or Chinese American; (b) heterosexual females; (c) 18-24 year olds; (d) a student at one of the 4 selected community colleges; and (e) have had sexual intercourse within the past year. To compare the differences between reasons for testing or not testing, the sample included students who have had a previous HIV test and those who have never been tested.

F. Data Collection and Recruitment

1. Focus Groups

Focus groups were conducted using semi-structured, open-ended discussion questions to explore norms, values, and beliefs that influence risk and protective behaviors for HIV and/or testing. Other issues that were addressed included broader issues of safer sex, students' dating relationships, and reasons for and avoiding HIV testing. Focus groups have the capacity to generate explanatory information by obtaining data through group interaction and are recommended in conjunction with
development of HIV prevention services (UCLA Center for HIV Identification, Prevention, and Treatment Services, 2007). See Appendix A for the focus group guide.

a. Recruitment. Participants for the focus groups were recruited from student health centers and ethnic student clubs using flyers, presentations, blog postings, and word-of-mouth. Snowballing technique as another method of recruitment was also used whereby participants who signed up were encouraged to provide additional names of their friends and peers who may be interested in participating. Each focus group consisted of 6 members. A reminder email and phone calls may have contributed to no failures-to-show. A modest stipend of $15 and lunch for each participant were provided at the focus group sessions for compensation of time.

b. Procedures. The student investigator and a student health center staff member co-facilitated the focus group at Ohlone College, while the student investigator and a colleague with HIV clinical experience co-facilitated the group at CCSF. Student health center directors at both campuses were asked to assist in the identification of an appropriate and accessible location on campus was free from distraction. Consent was obtained from participants before the session began and ground rules were reviewed to ensure a respectful, open, and comfortable environment for participants to express their viewpoints. Prior to the discussion, participants were asked to complete a short pre-focus group questionnaire that collected demographic information (see Appendix A). Confidentiality of data was emphasized, and the sessions will be audio-recorded. As a backup in case of technical failure, a research assistant was present to type up notes on key points discussed.
2. *Web-based Survey Participants*

Data collection for the quantitative survey phase took place on four community colleges in Northern California: Ohlone College in Alameda County, Foothill and DeAnza Colleges in Santa Clara County, and City College of San Francisco (CCSF) in San Francisco County. Letters of approval and support for the study were sought from participating school administrators and student health center directors of the community colleges. All four campuses have high proportions of API students, particularly Chinese and Chinese Americans. Table 1 below illustrates the total student population, total number of API students (excluding Filipinos and Pacific Islanders), and total number of API female students age 18-24 (excluding Filipinos and Pacific Islanders). Specific information on the number of Chinese/Chinese American students for each campus, however, is not available. Demographic features of the counties where the campuses are located provided good indication that among APIs, Chinese/Chinese Americans make up a significant proportion of the total API population. For instance, San Francisco has the largest Chinese population in the country, constituting one-fifth (20.7%) of the city’s total population (AsianWeek, 2003).

<table>
<thead>
<tr>
<th>Campus</th>
<th>Total student population</th>
<th>Total APIs*</th>
<th>API Females, 18-24*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSF</td>
<td>31,622</td>
<td>32.8%</td>
<td>7.0% (2,213)</td>
</tr>
<tr>
<td>DeAnza</td>
<td>21,705</td>
<td>34.2%</td>
<td>9.2% (1,993)</td>
</tr>
<tr>
<td>Foothill</td>
<td>15,765</td>
<td>26.2%</td>
<td>6.9% (1,080)</td>
</tr>
<tr>
<td>Ohlone</td>
<td>10,259</td>
<td>31.4%</td>
<td>8.0% (827)</td>
</tr>
</tbody>
</table>

* Not included: Filipinos or Pacific Islanders
The student health centers were one of the primary locations for participant recruitment, as it was the most convenient and intimate place to engage students in a health-related research activity. Ohlone, Foothill, and CCSF also hosted weekly or biweekly free and anonymous HIV testing clinics, so clients who met the study criteria were invited to participate in the study. Ohlone health center staff also assisted in recruiting eligible students at their weekly Family PACT (Planning, Access, Care, and Treatment) clinics. Family PACT is a California state sponsored family planning program that provides free and low cost services to eligible low-income men and women and is one of the most highly utilized services at the health center.

Additional methods were used to increase awareness of the study to ensure that the desired number of participants was met. Flyers and postcards were posted around participating campuses, while ads were placed in Ohlone and CCSF campus newspapers. A description of the study was also advertised on Ohlone’s health center and college website. Short presentations were made in selected classes (e.g., Asian American studies, women’s studies, general psychology), while outreach was conducted to various Chinese student clubs, such as the Asian Pacific American Student Association, Taiwanese Student Association, and Chinese Association during club recruitment days.

At De Anza College, the Dean of Multicultural Studies who oversees a faculty body of more than 90 sent out an email encouraging instructors to make announcements about the study to their students, while the Office Coordinator of the International Students Program office sent out an invitation to complete the survey to the listserv of 2,200 international students.
Approximately midway into the data collection period, recruitment efforts were not yielding the number of responses that would ensure reaching the desired sample size by the end of the academic term. Two additional methods of recruitment were employed which received IRB approval: (1) the offering of a paper-pencil format survey in addition to the existing online survey; and (2) the utilization of the snowball recruitment method. The paper-pencil alternative subsequently yielded a higher number of respondents since students seemed more inclined to participate when approached in person than when receiving an email invitation. Students who expressed interest in participating but did not have time to complete the survey at the time were sent an email invitation.

During the first week of November 2007, a MySpace webpage for this research study was created, bearing the URL address of http://www.myspace.com/chinese_women_study. MySpace is a social networking internet portal that allows its members to establish and develop professional, academic, and social contacts with other members. The MySpace webpage for this study was primarily created to establish contact with CA Young Women’s Collaborative through its own webpage, thereby tapping into its membership for possible research assistant and/or research participants. Secondarily, it was created to facilitate recruitment of internet savvy qualifying students.

G. Data Analysis

1. Focus Group Data Analysis

Responses gathered from the focus group sessions were transcribed using the software Cool Edit 2000 (Cool Edit) in verbatim and Microsoft Word
documents. Cool Edit is a digital audio editing program with a user-friendly toolbar that facilitated a smoother and more efficient transcription process. The transcripts were reviewed twice to ensure accuracy, and any personal information that may identify participants by name were removed and replaced with pseudonyms. Data analysis will then occurred in five steps as suggested by a focus group manual for API health research: (1) organizing the data; (2) generating categories, themes, and patterns; (3) testing the emerging hypotheses against the data; (4) searching for alternative explanations of the data; and (5) writing the report (Chng, 1999). Key themes generated from respondents were used to assist in creating response categories for the web-based questionnaire.

2. **Web-based Survey Data Analysis**

Raw data from the quantitative survey collected on the SurveyMonkey site was downloaded onto an SPSS database where it was cleaned for outliers and missing values prior to analysis. Statistical analysis conducted included descriptive data on demographic information and sexual behavior, including items such as mean age, mean number of sexual partners in the last year and in lifetime, frequency of condom use, mean age of sexual debut, and mean length of time for sexual partnerships. The test of one proportion was used to determine factors that influence the decision to obtain an HIV test. Chi-square was used to determine the association between relationship status, namely casual versus committed relationships, while independent sample t-tests were used to assess differences between the frequency and comfort level in partner communication on HIV testing between “casual” and “committed” sexual partners. In examining the cultural factors that promote or
discourage partner communication, which is an extension of the first research question, confidence intervals for one proportion were used to detect statistical significance in factors listed. Using multiple univariate analyses increased the odds of finding differences due to chance.

Due to the multiple number of independent/control variables that were examined in the study, multivariate analyses were also conducted. Multiple logistic regression was used to examine what variables were associated with whether or not participants have had an HIV test.

H. Power Analysis

In this research study, three different statistical tests were employed to analyze the data, as outlined above. Since the sample size has to be sufficient to achieve the levels of significance, the test with the highest sample requirement to produce significance was the test of one proportion. Power analysis was determined using Java Applets for Power and Sample Size (Lenth, 2006). In setting the alpha value at 0.05, using a two-tailed test, and based on a test of one proportion analysis, a sample size of 194 participants was needed to achieve 80% power. This minimum sample size assisted in investigating what factors influenced the decision of Chinese American college women to obtain an HIV test because the list of factors was an ordinal measure and was examined using population proportions. Due to the sensitive nature of the topic and the assumption of higher virginity rate among Chinese/Chinese American college women who volunteered to participate, and allowing for a 50% participation refusal or non-completion rate, this increased the sample size to 291, or approximately 73 participants per campus.
I. **Strengths and Limitations**

There are limitations to this research based on the selected study design. Since this was a cross-sectional design, it was not possible to determine causality. For example, it is not known if reasons for testing were precursors or consequences of sexual activity. This was an exploratory study that required the use of a purposive and convenience sampling, therefore, the nonrandom sampling technique limits the generalizability of the results. Self-selection also biased the results because students who visited the health center may be more concerned about their health status and may also have higher levels of HIV prevention awareness if they see a healthcare provider about reproductive and sexual health concerns. Targeted outreach to high traffic areas around campus and the use of multiple campuses, however, helped decrease that bias.

Data gathered from the questionnaire were based on self-reports, which is a threat to internal validity; therefore the focus on the last or most recent sexual relationship minimized recall errors. Self-reports may have also been prone to social desirability bias, though it is nearly impossible to obtain information any other way given the multitude of variables that were examined.

Despite the limitations, there were some features of the study that strengthened the design and contributes to the literature. Disaggregating of data by focusing on one specific ethnic group was a strength of the design and is sorely needed to advance the API health research agenda. Acculturation, which may potentially enhance the ability to predict sexual risk behaviors among immigrants, was examined using a scale that has already been validated and used in numerous research studies.
J. Research Ethics

The research project upheld principles of respect for persons, beneficence, and justice as outlined by the Belmont Report (The Belmont Report, 1979). Participation in the study was solely on a voluntary basis. A component of the briefing on recruitment and data collection provided to health center staff focused on ensuring that staff members do not coerce students in participating, particularly in benign passive ways. Loma Linda University Institutional Review Board (IRB) approved the research study, including an amendment that expanded recruitment efforts by offering paper-pencil format surveys.

For all participants in both the focus groups and web-based survey, consent was implied by participating in the focus group and completing the survey. An assessment of risks and benefits were outlined in the invitation to participate email. Participants were subjected to limited risks, as the study did not involve an intervention or deprivation of health service. Minor discomfort from responding to some of the questions may have occurred due to the sensitive and personal nature of the topics. Though there were no direct benefits for students participating in the study, it is hoped that it was a positive experience that allowed them to think about aspects of their lives they have not thought about before.

Confidentiality was strongly upheld and emphasized to students that any record of participation in focus groups or survey will not be included in their medical charts at the student health center. A small amount of recruitment efforts took place during interactions when students checked in for their appointments, therefore, it was emphasized that participation in the research study was completely separate from their
original reason to visit the student health center. All students, including those who declined to participate, were offered a recruitment postcard and educational literature on HIV prevention and testing resources. Materials were made available at tabling recruitment events, student health center lobby counters of where participation interest sign-up forms were placed, and at the focus groups.

SurveyMonkey's policy on confidentiality states that data collected is kept private and confidential and that the company will not use the data for their own purposes. The company also offers SSL encryption (Secure Sockets Layer) for the survey link and survey pages during transmission, which was purchased as part of the monthly subscription to the site. An email that included a link to the survey was sent to students who completed participation interest cards. This mechanism facilitated a higher response rate since initial contact was already been established, and it also increased confidentiality as students were able to complete the survey at their own convenience and degree of privacy. Only the student investigator and dissertation committee members have access to the data from the focus groups and SPSS file, which are kept confidential.
CHAPTER 4
PUBLISHABLE PAPER

Factors Associated With the Decision to Obtain an HIV Test Among Chinese/Chinese American Community College Students in Northern California

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ABSTRACT

HIV testing and counseling is the cornerstone of a comprehensive approach to HIV prevention and education. This article examines reasons for and barriers to obtaining an HIV test among 230 Chinese/Chinese American college students. Using health belief model constructs, a cross-sectional design survey was administered at four Northern California community college campuses. Results indicate 30% of respondents obtained HIV testing. The most common reasons for testing were “just to find out” (73%), “having had unprotected sexual intercourse” (63%), and “having had sex with a new partner” (57%). Among those who never tested, low levels of perceived susceptibility and lack of knowledge on testing sites were the most common barriers. Multiple logistic regression analyses revealed older age, ethnic identity, lack of condom use during last intercourse, lower perceived barriers, and higher self-efficacy as significant predictors of HIV testing history ($p = .007$). Emphasizing these reasons in HIV education campaigns will likely increase testing rates for this population.

Key words: HIV testing, Chinese, college students, reasons for testing
HIV testing and counseling is considered the cornerstone of a comprehensive approach to HIV prevention and education. Knowledge of serostatus is one of the specific objectives of the Healthy People 2010 “prevention of HIV infection” indicators (U.S. Department of Health and Human Services, 2000). Increasing the number of those who know their serostatus among HIV-positive college students is also identified as a high-priority objective in Healthy Campus 2010, a set of national health objectives that are a by-product of Healthy People 2010 specifically outlined for the college population (American College Health Association, 2002). In a study on the impact of HIV test counseling on college students’ sexual beliefs and behaviors, researchers concluded that testing could serve the dual purpose of HIV prevention education, as well as determining college students’ HIV status (Mattson, 2002).

Asian Pacific Islanders (APIs) constitute 1% of the total AIDS cases reported in the US. Of these cumulative API cases, 13% are attributed to API women, although this figure may be inaccurate due to underreporting and lack of detailed HIV surveillance data for this group (UCSF, 2003). Recent statistics also indicate that from 2001-2004, APIs experienced increasing incidences of HIV/AIDS infection in both genders, while other ethnic groups reported declines (CDC, 2006). Very little is known about HIV infection patterns among API women, though heterosexual contact is the primary risk factor, accounting for approximately 75% of all such cases (Zaidi, Crepaz, Song, Wan, Lin, Hu, & Sy, 2005; Wortley, Metler, Hu, & Fleming, 2000). Furthermore, 18% of cumulative cases and 42% of new AIDS cases among API women are categorized as “risk not identified,” higher than any other ethnic group (Darbes, Kennedy, Peersman, Zohrabyan, & Rutherford, 2002).
Chinese account for 12% of cumulative AIDS incidences of APIs in the US. Little is known, however, about HIV prevention, including HIV testing rates for Chinese/Chinese American women, because data are aggregated under an API umbrella group and rarely broken down into specific ethnic groups. The limited number of studies conducted on API women addressing HIV-related sexual risk assessments, perceived susceptibility to HIV, and partner characteristics on condom negotiations, show that there is a critical need to direct more attention to this population, with specific focus on single ethnic groups (Chin, 1999; Cooper, Loue, & Lloyd, 2001; Jemmott, Maula, & Bush, 1999; Lam & Barnhart, 2006).

Although APIs comprise the largest proportion of anonymous HIV test site clients, they also reported the lowest testing rates of any ethnic group (33.3% of Asian women compared to 33.6% of White women, 45.4% of Hispanic women, and 52.4% of Black women) (Zaidi et al., 2005). One study conducted in San Diego found that 18% of API respondents reported having been screened for HIV (Cooper et al., 2001). Moreover, data obtained from the National Longitudinal Study of Adolescent Health reported that just 10.8% of young API adults, ages 18-26, tested for HIV, compared to 18.7% of Whites (Nguyen et al., 2006).

A wide range of estimates is used to describe the HIV testing rates on national and statewide levels. The 2006 National Health Interview Survey reported that 40.3% of women of all ethnic and racial backgrounds ages 18-24 have been tested (US, DHHS, 2006). The 2006 California Health Interview Study (CHIS) reported that 61.1% of respondents who were Chinese obtained testing, though it is important to bear in mind that this rate reflects all genders, age, and sexual orientation of those who
identified as Chinese in CHIS, another example of lack of disaggregated data (Holtby, Zahnd, McCain, Chia, & Kurata, 2006). Moreover, appropriately 24% of 20-29 year olds of all ethnic and racial backgrounds obtained testing at publicly funded sites in the state, as reported in the 2004 California HIV Counseling and Testing Annual Report.

Examining reasons for testing is an important component in understanding the sociocultural context of the HIV testing process. The influence of peers was found to be a significant motivating factor for students who decided to test (Anastasi et al., 1999). If peers were to be tested, this may help to de-stigmatize the process, project a sense of responsibility, and provide support for other students considering getting an HIV test. A survey of students attending a private, church-affiliated college found the primary reasons for testing to be routine check-ups, blood donation, and unprotected sex (Opt et al., 2004). Reports from the National Health Interview Surveys showed “part of a routine medical check up,” pregnancy, and “wanted to find out if infected or not” were the common reasons adults seek testing (Inungu. Beach, Cook, & Lamerato, 2005).

Assessing knowledge, attitudes, and self-efficacy towards HIV/AIDS is essential in understanding how to build effective prevention programs. For API college students, however, research in this area has shown inconsistent results. A recent study on heterosexual API college students showed that respondents lack basic information about transmission, risk, and prevention of HIV infection (So, Wong, & DeLeon, 2005). Among a cohort of community college students in Orange County, California, Asian students demonstrated the lowest level of knowledge and concern about HIV compared to other ethnic groups (Shapiro et al., 1999). In the first study of HIV/AIDS
knowledge and sexual behaviors among Taiwanese American college students, Lin, Simoni, and Zemon (2005) found that greater self-efficacy was significantly associated with fewer sexual partners, lower sexual intercourse frequency, and greater consistency of condom use.

APIs in the US are a heterogeneous group, representing more than 50 countries and speaking more than 100 languages and dialects. The lack of disaggregated data among the API population provides insufficient specific information about the effects of the HIV epidemic on Chinese Americans. Since the first arrivals 150 years ago, there are approximately 2.4 million Chinese in the US, comprising the largest API ethnic group, or one-fourth of the total API population (U.S. Census, 2000). The majority (63%) are foreign-born, primarily emigrating from mainland China, Hong Kong, and Taiwan. Many others have emigrated from Southeast Asia, from countries such as Singapore, Malaysia, and Vietnam, self-identifying as Chinese, based on their origins and cultural roots. California is home to 40% of all Chinese Americans.

The purpose of this research was to examine factors associated with the decision to obtain an HIV test among Chinese American community college women. Research is needed to understand predictors of HIV risk and HIV testing in order to examine the reasons Chinese American college women choose to get tested or to avoid testing. The recent shift in CDC’s national policy to place more emphasis on HIV testing as a central focus of HIV prevention requires improved understanding of how individuals arrive at deciding to take an HIV test (Morrill & Noland, 2006).

The health belief model (HBM) was used as the theoretical framework for this study, as it has been demonstrated to be useful for predicting HIV preventive behavior.
(Steers, Elliot, Nemiro, Ditman, & Oskamp, 1996). The HBM is a psychological model used to explain, predict, and influence health behaviors, such that a person believes he or she (1) is susceptible to the disease (*perceived susceptibility*); (2) perceives the disease to be moderately or severely impacting one’s life (*perceived seriousness*); (3) adopting recommended behaviors could reduce the risk or seriousness of impact (*perceived benefits*); and (4) will not be obstructed by factors such as cost, pain, or stigma (*perceived barriers*). The construct, *self-efficacy*, which refers to the confidence in the ability to successfully perform a certain behavior, was added to the HBM model to better address habitual unhealthy behaviors (Glanz, Rimer, & Lewis, 2002).

According to Yep (1993) and Cooper and colleagues (2001), the HBM has shown greater utility in examining screening behavior for use among Asians than any other model because of the positive relationship between many of the constructs and the desired behavior. The model has been used successfully in previous API studies on HIV prevention as well as other health behavioral studies. The HBM has been previously used among Chinese American women to examine screening behaviors, including cultural barrier factors for clinical breast exam, mammography, and cervical cancer screening, but not to explain or predict HIV testing.

**METHODS**

The research study used an exploratory, descriptive, cross-sectional survey design that included mixed methods to investigate factors that influenced the decision to obtain an HIV test among Chinese American students attending four community colleges in Northern California. The study was conducted in two phases using
qualitative (focus groups) and quantitative (web-based and paper-pencil questionnaire) methods, and was based on constructs of the health belief model. Data derived from the focus groups was used to assist in the development of the questionnaire that was used in the quantitative phase. The questionnaire consisted of seven sections totaling 56 items. Five scales were used to examine constructs of the HBM model: a 13-item scale to calculate HIV knowledge, a 6-item scale to assess perceived susceptibility, a 3-item scale to measure perceived seriousness, a 13-item scale to assess perceived benefits and barriers, and a 3-item scale to measure self-efficacy. The Suinn-Lew Asian Self-Identity (SL-ASIA) scale, a 21-item tool, was included in the survey to measure acculturation levels, and further explore the impact of cultural factors on sexual behavior, including HIV testing. Acculturation was defined as "a process that can occur when two or more cultures interact together" or a "continuum of cultural affiliation and identity" (Suinn, 1995, p. 6; Estrada & Estrada, 2002, p. 2).

HIV testing status, a dichotomous variable categorized as either a history of testing or no testing, served as the dependent variable. Independent variables included the six constructs of the HBM as discussed above, current or previous relationship status (casual versus committed), partner communication about HIV testing/serostatus, sexual history and behavior such as age of sexual debut and number of sexual partners in the last year, and demographic variables of age, ethnic identity, and place of birth.

Participants were selected using a convenience sampling technique based on the following criteria: (a) self-identified Chinese or Chinese American; (b) heterosexual female; (c) 18-24 year old; (d) student at one of the four participating community colleges; and (e) history of sexual intercourse. Recruitment took place at student health
centers, HIV testing clinics, ethnic student clubs, and high traffic areas using flyers, postcards, direct solicitations, and classroom presentations. For one campus, email invitations to participate were also sent to students who met the ethnic, age, and gender criteria. The study was also posted on one college's website and one social networking internet portal (Myspace.com). To improve the participation rate, incentives including a random drawing for an iPod, $100 cash, or a one-term campus parking permit was offered. Participation in the study was on a voluntary basis. The Institutional Review Board (IRB) at Loma Linda University approved the research study.

**Statistical Analysis**

Descriptive statistics were calculated for demographic information and sexual behavior variables. Pearson chi-square test was conducted to assess whether scores on individual HIV knowledge items differed between those who had been tested and those who had not. Independent samples t-test was used to compare the mean scores of those who had a history of HIV testing and those who had never been tested. Mean scores for the entire knowledge scales measuring HBM model constructs, including perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, and self-efficacy, were also compared between those who had been tested versus those who have not tested using independent samples t-test. Frequencies were calculated to examine the most frequent reasons indicated for obtaining an HIV test and barriers for those who have never tested.

Multiple logistic regression was used to examine which variables were associated with whether participants have had an HIV test, using hierarchical regression. The first block included age, place of primary and secondary education,
ethnic identity, place of birth, relationship status, and condom use during last sexual intercourse. The second block examined the five HBM variables and the third block tested the predictability of acculturation on HIV testing history.

Internal reliability analysis was conducted for all HBM scales. Cronbach’s alpha scores were moderately high for four of the constructs (susceptibility = .78; seriousness = .84; benefits = .73; barriers = .74) and modest for self-efficacy (.66). The SL-ASIA Acculturation Scale had a high internal reliability score of .91. Average scores were used for all HBM and acculturation variables with no items dropped.

RESULTS

Participant Characteristics

The study included a sample of 230 Chinese/Chinese American college heterosexual females who have had sexual intercourse, operationalized as oral, vaginal, or anal penetration. Even though the study focused on one specific ethnic group, demographic data illustrate the heterogeneity of the population as it relates to identity, country of origin, and sexual practices (Table 1). Slightly more than half (56%) of the respondents were American-born, while the remaining were born in China, Hong Kong, Taiwan, or Southeast Asia. The respondents’ dating patterns were fairly homogamous, with an overwhelming majority having dated or were dating only Asians/Asian Americans and more than half only Chinese/Chinese Americans. The sample consisted of a moderately acculturated group with a mean total score of 2.80 on a five-point Likert scale. Those born in the US had a mean score of 3.17, while scores for those born abroad ranged from 2.23 to 2.49 (p < .001). There were also marked differences in acculturation patterns in regards to ethnic identity. The respondents who identified
themselves as Chinese Americans or of Chinese mixed heritage scored higher (3.14), compared to those who identified themselves as Chinese, Taiwanese, or Taiwanese Americans (2.40, p < .001).

Overall, the respondents reported a relatively conservative number of sexual partners, with a mean of 1.32 partners in the last year and 2.86 lifetime partners. Condoms were the most frequent method of contraception used (56%), followed by oral contraceptives (22%). The third most frequent method did not involve the use of any contraception (10%), which may partially explain the relatively high rate of emergency contraceptives use (38%), which is more than six times the reported national usage rates (6%) among women of ages 18-49 (Kaiser Family Foundation, 2005).

**HIV Testing History**

Of the Chinese/Chinese American community college students in this sample, 29.9% reported a history of HIV testing, while 70.1% had never been tested. Among those who had been tested, the majority (62.1%) had one test in their lifetime, and about one-fifth (22.7%) had two tests (mean=1.57; SD=.89). Nearly half (48.5%) of these tested respondents received their most recent HIV test at community or public clinics, followed by their private doctor (25%), and the campus student health center (19.1%).

**HIV Knowledge**

HIV knowledge was assessed using DiClemente’s AIDS Knowledge scale, a 13-item tool with a dichotomous response option of “yes” or “no” to various statements on prevention and transmission of the AIDS virus (DiClemente, Brown, Beausoleil, &
Ludico, 1993). As Table 2 illustrates, the total mean score for all participants was 83.4%. There were significant differences between those who had tested and those who had never tested when comparing mean scores, (88.2% versus 81.8%; \( p = .001 \)). Participants who have never tested scored consistently lower on all 13 questions, with statistically significant lower scores on the following four items: “A person can get AIDS from using public toilet seats;” “A person can get AIDS from donating blood;” “People can reduce their chances of becoming infected with the AIDS virus by not having any kind of sexual intercourse (being abstinent);” and “A person can get AIDS from being bitten by mosquitoes/insects.” The following three items had the lowest scores regardless of testing history: “A person can get AIDS from donating blood,” “A person can get AIDS from having a blood test.” And “A person can get AIDS from being bitten by mosquitoes/insects.

**HBM Measurements**

Perceived susceptibility of HIV infection was measured with a six-item instrument using a four-point Likert scale, a previous adaptation of a subscale of the HBM model (Lux & Petosa, 1994), with a minor change in an adjective in the middle range of agreement, from “mildly” to “somewhat.” Perceived susceptibility was measured using statements such as “People like me do not get HIV infections” and “I am not worried that I might get an HIV infection” with reverse coding. Respondents perceived a fairly high level of susceptibility to HIV (mean=3.24). Those who had been tested had a mean score of 3.40 while those who had never tested had a mean score of 3.17.
The perceived seriousness scale was adapted from the Risk Behavior Diagnosis Scale containing three items using a five-point Likert scale (Witte, McKeon, Cameron, & Berkowitz, 1995). Differences between the tested and not tested groups were statistically significant \( p = .001 \), with higher perceived seriousness reported among those tested. More than half (50.4%) marked “strongly disagree” with the statement, “It is likely that I will get HIV.”

Assessments of perceived benefits and perceived barriers were combined in a 13-item tool using a five-point Likert scale. Reverse coding occurred for perceived barrier items so that higher scores indicate more perceived barriers to testing. Significant differences were detected between those who had tested and not tested in perceived benefits of HIV testing \( p = .0001 \), such that there was greater perception of benefits reported by those who tested.

Self-efficacy in obtaining an HIV test was measured with a three-item tool using a four-point Likert scale with reverse coding so that higher scores indicate greater self-efficacy, which was adapted from a self-efficacy scale for condom use negotiation among adolescents (Rotheram-Borus et al., 1997). The respondents who have ever tested scored somewhat higher than those who have never tested (3.59 compared to 2.88), though mean scores were not statistically significant \( p = .091 \).

**Reasons for and Barriers to Testing**

The most common reasons reported for obtaining an HIV test include “just to find out” (73.1%); “had unprotected oral, vaginal, and/or anal sex” (62.7%); and “had sex with a new partner” (56.7%). Additionally, more than two-fifths of the respondents reported “time for a regular test” (44.8%) and “health care provider or health educator
recommended” (41.8%). Among those who had never had an HIV test, the most frequent responses for not getting tested were, “I am at low risk for HIV infection” (42%), “I am not sure where to go get tested” (36.3%), and “I don’t think I can get HIV” (24.2%), while 33.8% reported no particular reason.

The participants responded differently to the online version versus the paper version of the question inquiring the reason(s) for deciding to get the last HIV test, despite the identical wording of the two versions. This is because with the online version of the question, the respondents were mechanically restricted from selecting more than one choice each for the “main reason” and the “secondary reason, if any.” The paper version, however, had no such restriction. Thus, a number of participants using the paper version selected more than one choice for the “main reason” and the “secondary reason, if any.” Despite this difference in treatment between the two versions, a chi-square analysis found no significant difference in reasons for testing.

Other Factors Influencing the Decision to Obtain an HIV Test

Three sequential multiple logistic regression analyses were conducted, which revealed that a number of demographic and sexual behavior variables and two HBM constructs are significant factors in predicting whether participants had an HIV test. In each model, demographic and sexual behavior variables were entered first (i.e., age, country of primary and secondary education, ethnic identity, place of birth, relationship status, and condom use during their last sexual intercourse), followed by the five HBM variables (i.e., perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, self-efficacy), and lastly, acculturation. Variables that had more than two categorical response choices were recoded into dichotomized variables.
The first multiple logistic regression analysis, with the overall model being significant, indicated that older age (OR = 1.43 95% CI = 1.19, 1.73, \( p < .001 \)), ethnic identity dichotomized as Chinese American/Taiwanese American/mixed Chinese heritage versus Chinese/Taiwanese (OR = .37, 95% CI = .14, .95, \( p = .038 \)), and lack of condom use during last sexual intercourse (OR = .39, 95% CI = .20, .77, \( p = .007 \)) were significant predictors of having a history of HIV test, accounting for 16% of the variance in testing. The second block of variables of the HBM model was significant, accounting for 34% of the variance or an additional 18% beyond the demographic variables. Self-efficacy (OR = 4.86, 95% CI = 2.30, 10.26, \( p < .001 \)) and perceived barriers (OR = .43, 95% CI = .24, .80, \( p = .007 \)) were significant predictors of testing, while the demographic and sexual health variables in the first model remained significant. The third block of variables examined if acculturation significantly predicted testing. The overall model accounted for 35% of the variance in testing, although acculturation was not a significant independent predictor of testing.

**DISCUSSION**

This is one of the first studies to examine a disaggregated Asian Pacific Islander group’s HIV testing behavior, specifically Chinese/Chinese American community college women, by assessing self-reported testing rates and exploring reasons for and barriers to testing in a socio-contextual manner. This study further disaggregated the Chinese ethnic identity into Chinese and Taiwanese ethnic groups. While Chinese and Taiwanese populations share similar language and cultural background, differences exist in lifestyle and social background that warrant this additional disaggregation. For example, there are differences in the degree of exposure to Western culture for
international students coming from China versus Taiwan (Wang & Mallinckrodt, 2006).

Approximately 30% of students in this sample had a history of testing, citing the desire to learn one’s serostatus, the engagement in unprotected sexual intercourse, and the acquisition of a new sex partner as the main reasons to seek testing. Low perception of susceptibility and uncertainty of testing sites were most frequently noted as reasons why the majority of the respondents had never had an HIV test. After applying the Bonferroni adjustment, two of the five constructs of the HBM, namely perceived barriers and self-efficacy, were also significant independent predictors of history of HIV testing.

Studies involving female students of all ethnic and racial backgrounds generally indicate an HIV testing rate in the 20% to 30% range. In a 1999 study of the general student population at four community colleges in Orange County, California, 30% reported previous testing (Shapiro, Radecki, Charchian, & Josephson, 1999). A 2003 study at a California State campus showed that female students (24%) reported testing more often than their male counterparts, (19%), (Flannery & Ellingson, 2003). A 2004 study conducted at two large southern California campuses reported that 21% of students sampled had been tested for HIV (Marelich & Clark, 2004). Another 2004 study, conducted on an east coast campus, showed 23% of undergraduates with an HIV testing history, with higher rates as the years of college attendance increased (Opt & Loffredo, 2004). A study on a Southeastern campus reported that 20.1% have been previously tested, while 39.5% have asked their partner’s HIV status (Hou, 2007). In contrast, the most recent study of the general college student population, conducted on
a consortium of 13 community colleges in California, revealed an HIV testing rate of 44% for female students of all ethnic and racial backgrounds. However, it also showed that API female students tested at a substantially lower rate of 31% (American College Health Association, 2007). Our study showed similarly low testing rates of 30% for Chinese/Chinese American college students. The significantly lower HIV testing rate among Chinese/Chinese Americans and other APIs indicates that issues affecting access and utilization of HIV testing program among these groups need to be better addressed.

The results of this study provide an understanding of attitudes and beliefs about HIV and HIV prevention, which has implications for the development of culturally appropriate health education programs. The reasons the participants indicated for obtaining testing in this study were markedly different from previous research on college students of all ethnic and racial groups. In previous research, the most common influential factors were external influences such as “friend/peer” and routine check-ups. Unprotected sex has also been cited as one of the primary reasons in a number of studies, a key recommendation for HIV screening by health care providers and CDC. In contrast, the most common reason cited among our study’s population for obtaining an HIV testing was “just to find out.”

The nebulous statement of “just to find out” likely masks other more specific reasons for testing, which remain hidden due to cultural pressures that inhibit open discussions of sexual topics, especially relating to HIV and STDs, which are considered taboo. For example, sex-related matters are often times communicated in signals and codes and often times in romanticized euphemisms. This is evidenced by a study
examining condom negotiation strategies among heterosexual Asian and White college students, wherein researchers found that Asians of both genders, more than Whites, used verbal-indirect strategies such as dropping hints as means of persuasion (Lam, Mak, Lindsay, & Russell, 2004). The responses of “just to find out” seem to confirm API women’s preference to engage in non-explicit and indirect approach to HIV related issues, likely for the similar reasons APIs prefer verbal-indirect strategies in condom use negotiations. Remaining sensitive to these and other cultural issues will aid healthcare providers in providing more effective HIV education and counseling.

After “just to find out,” “engaging in unprotected sexual intercourse” and “having sex with a new partner” were the two subsequent most common reasons for testing in this study sample. Given that heterosexual contact is the main risk factor for HIV infection among API women, it is encouraging that such reasons cited reflect an increasing sense of personal responsibility when it comes to assessing HIV risk factors. Acquisition of a new sex partner may imply that Chinese/Chinese American college students are proactive in inquiring about sexual history, including serostatus, which increases the level of partner communication around such topics (Wenger, Linn, Epstein, & Shapiro, 1991).

As for those who never had tested, low perception of susceptibility to HIV infection was the most common reason cited (42%), although perceived susceptibility scores for those who never tested were moderately high (3.17 on a 4 point Likert scale). A previous study on API women’s perceived susceptibility to HIV revealed that fear of how one’s family and community may react to an HIV positive person was significantly associated with perceived susceptibility (Cooper et al., 2001). Thus, in
Asian cultures, where the importance of bringing honor and avoiding shame to the family is strongly upheld, individuals may not be as willing to seek HIV testing.

The lack of knowledge regarding testing facilities was the second most common reason indicated for not having ever been tested (36%). This is an unanticipated finding, especially because the study was conducted on campuses located in the San Francisco Bay Area, which, as one of the epicenters of the HIV epidemic, has a relatively sophisticated public health system addressing HIV/AIDS issues. This lack of knowledge regarding testing facilities is a structural-level barrier, which campus student health centers have a pivotal role in helping to eliminate. College campuses have a responsibility to promote healthy behaviors and create environments that support health (ACHA, 2004). As such, they are encouraged to play a proactive role in HIV prevention by offering testing and counseling services. Health promotion efforts on campuses can include social marketing campaigns to heighten awareness on the importance of testing, as well as providing better access to both on-campus and community-based testing services. The American College Health Association’s guidelines on *Standards of Practice for Health Promotion in Higher Education* strongly encourage the formation of campus and community partnerships to advance health promotion initiatives (ACHA, 2004).

There was an interesting array of “other” write-in responses as to the reasons behind not having tested. “One completely loyal and clean partner,” “not sure if the last check up I did included this test…” and “I don’t do or get involved with people who may be at risk for HIV infection” were several of the responses to the question. A few participants expressed concerns about the use of needles, suggesting another area
of misperception on the method of HIV test administration, especially in light of low knowledge scores on certain items. Several students indicated their intention to test in the near future as part of write-in responses.

While knowledge of preventive health behavior, specifically HIV prevention behavior, does not always directly lead to safer sexual practices, HIV education must be considered a foundational component to a comprehensive approach to a culturally competent prevention program. It is alarming that, despite the passage of nearly three decades from the start of the HIV/AIDS epidemic, misperceptions such as transmission of HIV through mosquito bites or toilet seats still persist (CDC, 1999). Level of knowledge was only slightly better among participants in this study compared to Asian adults in the state. A statewide survey of California adults that assessed knowledge, attitudes, beliefs, and behaviors regarding HIV and AIDS in 2000 revealed that 22% of Asians believed that using public toilets could transmit HIV (12.1% in this study responded incorrectly), and 43% believed that HIV could be contracted from a mosquito bite (25.5% in this study missed this question). Low scores were also reported on items regarding transmission from donating blood (39% responded correctly) and from having a blood test (62% responded correctly). HIV education programs that directly address these high levels of misinformation and incorrect beliefs about transmission will increase people's knowledge around risk factors, and perhaps help to increase self-efficacy and eliminate perceived barriers to testing.

The mean age of sexual debut among participants in the sample was 16.97, higher than other ethnic groups and previous research on this API population. A recent study comparing sexual behaviors of White and Chinese American females showed a
15.3 age of first sexual intercourse for Chinese American girls (Kuo & St. Lawrence, 2006). Reasons for the older mean age found in this study may be due to the high number of international students represented in the sample. Anecdotally, during pre-screening for qualification for survey participation, recruiters noticed that the most frequent reason for disqualification was their virginity status. The later sexual debut of the sample population in this study may explain the lower number of sexual partners they have had in both the previous year and in their lifetime, since more than half of the study participants were of age 18 or 19, and therefore had fewer sexually active years. The implications for older age of sexual debut among Chinese/Chinese Americans should be further examined to assess whether it serves as a protective factor in the reduction of sexually risky behavior.

The variables that emerged as significant correlates to HIV testing based on regression analyses include: older age (21-24), ethnic identity (Chinese American/Taiwanese American identification as indication of biculturality and/or assimilation), lack of condom use during last sexual intercourse, lower perceived barriers, and higher self-efficacy. API cultural identity has been found to be an asset in shaping sexual behavior (Advocates for Youth, 2007). Thus, addressing such factors may help to shape positive messages that encourage HIV testing.

Strengths and Limitations

There are strengths and limitations to this research based on the selected study design and sampling. Disaggregating of data by focusing on one specific ethnic group is a strength of the design and essential to the advancement of the API health research agenda. Since this study uses a cross-sectional design, it is not possible to determine
causality. For example, it is unknown whether reasons for testing were precursors or consequences of sexual activity. This was an exploratory study that required the use of a purposive and convenience sampling; therefore, the nonrandom sampling technique limits the generalizability of the results. Additionally, self-selection biased the results, because a number of students were solicited to participate in the study while they were visiting their school health center. Such students, if they were visiting the student health center for reproductive or sexual health concerns, may conceivably have a higher level of HIV prevention awareness. Targeted outreach to high traffic areas throughout multiple campuses, however, helped decrease that bias. While the data gathered from the questionnaire were based on self-reports, which may threaten internal validity due to recall error, this was minimized by focusing on the last or more recent sexual relationship. Self-reports may have also been prone to social desirability bias, though given the multitude of variables that were examined, this was unavoidable.

**Recommendations for Future Research**

This was an exploratory study designed to assess HIV testing rates and the complexity of factors that influences an important health screening decision, one that is uniquely stigmatized within the API community. More research is needed to evaluate strategies that may be effective in addressing constructs of the HBM model, such as raising the level of perceived susceptibility to HIV infection, raising the level of perceived benefits and reducing the level of perceived barriers of HIV testing among this population. Developing strategies on increasing self-efficacy of Chinese/Chinese American college women to seek testing is an area that also deserves further investigation. The roles of culture, ethnic identity, and acculturation also need to be
further explored within the context of HIV prevention messages, and specifically for encouraging HIV testing for Chinese/Chinese American women.
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This research study is part of a dissertation work supported by Loma Linda University, Center for Health Research and Ohlone College Student Health Center. We wish to thank the directors of the participating student health centers for their support and the participants for their insights and assistance. Special thanks go to the following individuals for their assistance with data collection and manuscript review: Jacob Chang, Verna Mae Salting, Wendy Trieu Sanchez, Katy Yen.
References


AIDS Education and Training Center and AIDS Education Project. Available at: http://www.hawaii.edu/hivandaids/links_culture.htm


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University of California, San Francisco, Center for AIDS Prevention (2003). What are

U.S. Census Bureau, Census 2000. Summary File 1 (SF 1) 100-Percent Data. Table PCT 5: Asian alone with one Asian category for selected groups.


<table>
<thead>
<tr>
<th>Table 1: Demographics and Sexual Behavior of Sample Population (N=230)</th>
<th>Sexual Behavior of Sample Population N %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Demographics</strong></td>
<td><strong>Sexual Behavior of Sample Population N %</strong></td>
</tr>
<tr>
<td>Age (N=230, Mean=20, SD=1.89)</td>
<td>Age of sexual debut (N=227, Mean=16.97)</td>
</tr>
<tr>
<td>18-20</td>
<td>13-15 years old</td>
</tr>
<tr>
<td>21-24</td>
<td>16-18 years old</td>
</tr>
<tr>
<td>13-15 years old</td>
<td>16-18 years old</td>
</tr>
<tr>
<td>16-18 years old</td>
<td>19-21 years old</td>
</tr>
<tr>
<td>19-21 years old</td>
<td>22-24 years old</td>
</tr>
<tr>
<td>22-24 years old</td>
<td></td>
</tr>
<tr>
<td>Ethnicity (N=231)</td>
<td>Partners in last year (N=220, Mean=1.3)</td>
</tr>
<tr>
<td>Chinese/Chinese American</td>
<td>None</td>
</tr>
<tr>
<td>Taiwanese/Taiwanese American</td>
<td>1 partner</td>
</tr>
<tr>
<td>Chinese mixed</td>
<td>2 partners</td>
</tr>
<tr>
<td>Place of birth (N=230)</td>
<td>3 or more partners</td>
</tr>
<tr>
<td>US</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Primary &amp; secondary education (N=231)</td>
<td>Condom use during last intercourse (N=228)</td>
</tr>
<tr>
<td>US</td>
<td>Yes</td>
</tr>
<tr>
<td>Abroad</td>
<td>No</td>
</tr>
<tr>
<td>Years in the US (N=231)</td>
<td>Don't remember</td>
</tr>
<tr>
<td>Less than 2 years</td>
<td></td>
</tr>
<tr>
<td>2-5 years</td>
<td></td>
</tr>
<tr>
<td>6-10 years</td>
<td></td>
</tr>
<tr>
<td>More than 10 years</td>
<td></td>
</tr>
<tr>
<td>International student (N=229)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Relationship status (N=231)</td>
<td></td>
</tr>
<tr>
<td>Single/Relationship with no sexual activity</td>
<td>Method of contraception (N=229)</td>
</tr>
<tr>
<td>One casual partner</td>
<td>No contraception used</td>
</tr>
<tr>
<td>One committed partner</td>
<td>Condoms</td>
</tr>
<tr>
<td>Multiple partners</td>
<td>Oral contraceptives</td>
</tr>
<tr>
<td>Length of relationship (N=231)</td>
<td>Withdrawal</td>
</tr>
<tr>
<td>1-5 months</td>
<td>Other</td>
</tr>
<tr>
<td>6-12 months</td>
<td></td>
</tr>
<tr>
<td>Longer than a year</td>
<td></td>
</tr>
<tr>
<td>Ethnicity of current/former partners (N=235)*</td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td></td>
</tr>
<tr>
<td>Other Asian/Pacific Islanders</td>
<td>Use of emergency contraception (N=229)</td>
</tr>
<tr>
<td>Non-Asians</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Total % exceeds 100%, because respondents were allowed to check all that apply.</td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Level of HIV Knowledge among Those Who Had Tested and Those Who Had Never Tested

<table>
<thead>
<tr>
<th>Statement</th>
<th>Tested %</th>
<th>Never Tested %</th>
<th>Total %</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A person can get AIDS from sharing needles to inject drugs (n=230)</td>
<td>98.5</td>
<td>94.9</td>
<td>96.0</td>
<td>0.209</td>
</tr>
<tr>
<td>2. A person can get AIDS from using public toilet seats (n=230)</td>
<td>95.9</td>
<td>84.7</td>
<td>87.9</td>
<td><strong>0.023</strong>*</td>
</tr>
<tr>
<td>3. A person can get AIDS from donating blood (n=229)</td>
<td>49.3</td>
<td>34.0</td>
<td>38.6</td>
<td><strong>0.032</strong>*</td>
</tr>
<tr>
<td>4. A person can get AIDS from having sex without using a condom (n=230)</td>
<td>97.0</td>
<td>95.5</td>
<td>96.0</td>
<td>0.607</td>
</tr>
<tr>
<td>5. A person can get AIDS from having a blood test (n=230)</td>
<td>64.2</td>
<td>61.1</td>
<td>62.1</td>
<td>0.668</td>
</tr>
<tr>
<td>6. A person can get AIDS from holding hands with someone (n=227)</td>
<td>100.0</td>
<td>98.1</td>
<td>98.6</td>
<td>0.250</td>
</tr>
<tr>
<td>7. People can reduce their chances of becoming infected with the AIDS virus by not having any kind of sexual intercourse with an IV drug user (n=229)</td>
<td>91.0</td>
<td>79.5</td>
<td>81.2</td>
<td>0.328</td>
</tr>
<tr>
<td>8. Anyone who has the AIDS virus can infect someone else during sexual intercourse (n=230)</td>
<td>98.5</td>
<td>94.3</td>
<td>95.5</td>
<td>0.159</td>
</tr>
<tr>
<td>9. A pregnant woman who has the AIDS virus can infect her unborn baby (n=224)</td>
<td>91.0</td>
<td>93.0</td>
<td>92.4</td>
<td>0.614</td>
</tr>
<tr>
<td>10. There is a cure for AIDS (n=224)</td>
<td>94.0</td>
<td>87.9</td>
<td>89.7</td>
<td>0.166</td>
</tr>
<tr>
<td>11. Only gay men get AIDS (n=221)</td>
<td>97.0</td>
<td>98.1</td>
<td>97.7</td>
<td>0.616</td>
</tr>
<tr>
<td>12. People can reduce their chances of becoming infected with the AIDS virus by not having any kind of sexual intercourse (being abstinent) (n=222)</td>
<td>91.0</td>
<td>80.0</td>
<td>83.3</td>
<td><strong>0.043</strong>*</td>
</tr>
<tr>
<td>13. A person can get AIDS from being bitten by mosquitoes/insects (n=220)</td>
<td>89.2</td>
<td>68.4</td>
<td>74.5</td>
<td><strong>0.010</strong>*</td>
</tr>
</tbody>
</table>

Total Mean                                                                 | 88.2     | 81.8           | 83.4    | **0.001** **

* p < .05
** p < .01
<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th></th>
<th>Tested</th>
<th></th>
<th>Never Tested</th>
<th></th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean (SD)</td>
<td>N</td>
<td>Mean (SD)</td>
<td>N</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Perceived Susceptibilitya</td>
<td>224</td>
<td>3.24 (0.73)</td>
<td>67</td>
<td>3.40 (0.69)</td>
<td>157</td>
<td>3.17 (0.74)</td>
<td>.920</td>
</tr>
<tr>
<td>Perceived Seriousnessb</td>
<td>224</td>
<td>4.35 (1.04)</td>
<td>67</td>
<td>4.64 (0.86)</td>
<td>157</td>
<td>4.23 (1.09)</td>
<td>.001*</td>
</tr>
<tr>
<td>Perceived Benefitsc</td>
<td>224</td>
<td>4.63 (0.50)</td>
<td>67</td>
<td>4.77 (0.33)</td>
<td>157</td>
<td>4.57 (0.55)</td>
<td>.0001*</td>
</tr>
<tr>
<td>Perceived Barriersd</td>
<td>223</td>
<td>2.03 (0.87)</td>
<td>66</td>
<td>1.65 (0.71)</td>
<td>157</td>
<td>2.19 (0.88)</td>
<td>.093</td>
</tr>
<tr>
<td>Self-Efficacye</td>
<td>222</td>
<td>3.09 (0.69)</td>
<td>66</td>
<td>3.59 (0.54)</td>
<td>156</td>
<td>2.88 (0.64)</td>
<td>.091</td>
</tr>
</tbody>
</table>

*p < .01

Note. a = 6 item scale using 4 point Likert Scale. b = 3 item scale using 5 point Likert Scale.
       c = 7 item scale using 5 point Likert Scale. d = 7 item scale using 5 point Likert Scale.
       e = 3 item scale using 4 point Likert Scale.
<table>
<thead>
<tr>
<th>Reasons for HIV Testing</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Just to find out</td>
<td>73.1</td>
</tr>
<tr>
<td>2. Had unprotected oral, vaginal, and/or anal sex</td>
<td>62.7</td>
</tr>
<tr>
<td>3. Had sex with a new partner</td>
<td>56.7</td>
</tr>
<tr>
<td>4. Time for regular test</td>
<td>44.8</td>
</tr>
<tr>
<td>5. Health care provider or health educator recommended</td>
<td>41.8</td>
</tr>
<tr>
<td>6. Immigration requirement</td>
<td>37.3</td>
</tr>
<tr>
<td>7. To confirm previous test results</td>
<td>35.8</td>
</tr>
<tr>
<td>8. Asked by partner</td>
<td>34.3</td>
</tr>
<tr>
<td>9. Influenced by friends</td>
<td>34.3</td>
</tr>
<tr>
<td>10. Illness (STD or non-STD)</td>
<td>32.8</td>
</tr>
<tr>
<td>11. Had a partner with other STDs</td>
<td>31.3</td>
</tr>
<tr>
<td>12. Insurance requirement</td>
<td>31.3</td>
</tr>
<tr>
<td>13. Had/have an HIV-positive partner</td>
<td>31.3</td>
</tr>
<tr>
<td>14. As part of a research study</td>
<td>29.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reasons for not testing</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am at low risk for HIV Infection</td>
<td>66.2</td>
</tr>
<tr>
<td>2. I am not sure where to go get tested</td>
<td>36.3</td>
</tr>
<tr>
<td>3. No particular reason</td>
<td>33.8</td>
</tr>
<tr>
<td>4. I don’t know how the test is done</td>
<td>28.7</td>
</tr>
<tr>
<td>3. I don’t think I can get HIV</td>
<td>24.2</td>
</tr>
<tr>
<td>5. Inconvenience</td>
<td>17.8</td>
</tr>
<tr>
<td>6. I don’t worry about HIV</td>
<td>17.2</td>
</tr>
<tr>
<td>7. I am worried about confidentiality</td>
<td>11.5</td>
</tr>
<tr>
<td>8. I am afraid to learn the results</td>
<td>7.6</td>
</tr>
</tbody>
</table>
CHAPTER 5
PUBLISHABLE PAPER

The Role of Partner Communication and Relationship Status on HIV Prevention and Testing for Chinese/Chinese American Community College Women in Northern California

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May 18, 2008
Title: “The role of partner communication and relationship status on HIV prevention and testing for Chinese/Chinese American community college women in Northern California”

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2. Ohlone College Student Health Center
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ABSTRACT

Objective: To explore the role of partner communication and relationship status on HIV testing among Chinese/Chinese American college students in Northern California.

Participants: Two-hundred-thirty, 18-24 year-old heterosexual, Chinese/Chinese American community college students who have had sexual intercourse.

Methods: Descriptive, cross-sectional study design was conducted in two phases: focus groups and an online or paper-pencil questionnaire. Pearson chi-square tests and multiple regression analyses were used to analyze the data.

Results: The majority (60%) of respondents were in committed partnerships, 21% in casual partnerships, and 19% were single or in nonsexual relationships. Less than one-third (30%) of respondents had ever obtained an HIV test. History of HIV tested was associated with relationship status ($p = .03$) and partner communication ($p < .001$).

Conclusions: Interventions to increase partner communication skills while taking into account sociocultural factors among Chinese/Chinese American college women and their partners are needed.

Key words: HIV testing, Chinese, college students, partner communication, relationship status
The most fundamental method of HIV/AIDS prevention may be the idea of sexual partners communicating with each other about how to protect themselves by preventing transmission of the disease. Enhancing communication with partners is a strategy found to reduce the level of HIV risk for women, while communication among dating partners about sexuality is a significant predictor of communication about HIV/AIDS. Sexual communication skills are also influential in the adoption of protective behaviors such as condom use and other contraceptive use. Level of comfort is also an important characteristic to consider in partner communication. One study among Latino adolescents indicated that comfort with communication is associated with safer sexual behaviors, increased intention to delay intercourse, and older age of sexual initiation.

Communication patterns differ depending on the type of relationship, such as whether the relationship is casual or between committed partners and can influence sexual behavior in general, and more specific behaviors like condom use. It is well documented that individuals are more likely to have unprotected sex with their main partners than non-main partners, and that decisions regarding safer sex are also markedly different, due to issues such as trust, between the two categories and levels of commitment. The level of comfort and protection in a sexual relationship also differs depending on the type of relationship between partners. Hong and colleagues found that individuals involved in a committed relationship with a serodiscordant main partner may be more altruistically motivated to protect their partners than with casual partners, and perhaps be more inclined to have safer sex such as always using a condom. In contrast, however, Chin found that individuals tapered off in self-
protective behaviors as the amount of time spent with a partner increased, perhaps because of increased trust and comfort between partners. Condoms were used less often as the relationship progressed, which may partially be due to strengthening intimacy, comfort and trust.

A number of studies have examined the role of partner communication among college students in the context of safer sexual practices. Communication with sexual partners about safer sex may be an important “sexual behavior” in and of itself, as one study revealed that students who received education about HIV infection, combined with an HIV test, increased communication with their sexual partners about the risk of HIV six months following intervention. Another study of college students on a commuter campus reported a high rate (75%) of communication and comfort discussing HIV prevention with their partners, with women reporting practice of and acknowledging importance of communication significantly more often than men. A survey of students at a private university in California revealed that 60% of respondents had discussed safer sex with their partner, while another study in the southeast region indicated that students who obtained an HIV test were more likely (78%) than students who have never tested to inquire about a partner’s HIV status.

Asian Pacific Islanders (APIs) report significantly less AIDS-related interpersonal communication than their non-API counterparts. Social and cultural norms, as well as culturally determined gender roles, discourage API women from openly and directly discussing sexuality. Only two studies have been published addressing partner communication among API college women. Lam and colleagues examined condom negotiation strategies among Asian and White college students in
Northern California and found that Asians used verbal-indirect strategies (such as dropping hints by mentioning a friend who recently became pregnant) more than Whites. In a follow up study, looking at the role of partner ethnicity and age on condom negotiations, Asian women use more nonverbal-direct strategies (such as handing a condom to a partner) with non-Asian partners than with Asian partners. Asians with older partners are less likely to use verbal strategies (such as openly discussing condom use with partners) than those with younger partners. To date, there are only a few studies that examine the influence of partner communication about HIV testing among API women, demonstrating a need for more culturally-based research on HIV prevention among this population.

APIs make up 1% of the total AIDS cases reported in the US with API women making up 13% of cumulative API cases, although this figure may be inaccurate due to underreporting and lack of detailed HIV surveillance data for this group. Recent statistics also indicate that from 2001 to 2004, APIs experienced increased incidence of HIV/AIDS for both genders while other ethnic groups reported declines. Very little is known about HIV infection patterns among API women, though heterosexual contact is the main risk, representing about 75% of all cases. Furthermore, 18% of cumulative cases and 42% of new AIDS cases among API women fall under the category of “risk not identified,” higher than any other ethnic group. Chinese account for 12% of cumulative AIDS incidences of APIs in the US.

APIs in the US are a heterogeneous group, representing more than 50 countries and speaking more than 100 languages and dialects. The lack of disaggregated data among the API population provides little specific information about how the HIV
epidemic affects Chinese Americans. Since the first arrivals 150 years ago, there are approximately 2.4 million Chinese in the US, comprising the largest API ethnic group, or one-fourth of the total API population.\(^27\) The majority (63%) are foreign-born, with most emigrating from mainland China, Hong Kong, and Taiwan. Many others have emigrated from Southeast Asia, from countries such as Singapore, Malaysia, and Vietnam, self-identifying as Chinese based on their origins and cultural roots. California is home to 40% of all Chinese Americans.

The purpose of this research was to explore the role of partner communication and relationship status on HIV testing among Chinese/Chinese American community college women in the San Francisco Bay Area. The college years serve as both an entry and opportune time for young adults to cultivate and experience romantic and sexual dating relationships. Research is needed to understand how the dynamics of communication between partners in various types of relationships impact sexual health decisions of Chinese/Chinese American college students.

**METHODS**

An exploratory, descriptive, cross-sectional study design using mixed methods was used to identify factors that are associated with the decision to get an HIV test among Chinese/Chinese American students attending four community colleges in Northern California. The study was conducted in two phases using qualitative (focus groups) and quantitative (web-based and paper-pencil questionnaire) methods. The questionnaire consisted of seven sections totaling 56 items that included inquiries on demographic and sexual history and behaviors of the sample population, and The Suinn-Lew Asian Self-Identity (SL-ASIA)\(^28\) scale to measure acculturation levels and
further explore the impact of cultural factors on sexual behavior. Experts and student health center providers were asked to review the instrument and provided feedback. The survey was then pilot tested among student volunteers with similar backgrounds of the target population, to assess comprehension, clarity, and the length of time it took to complete the survey.

Partner communication and relationship status served as the independent variables. Partner communication was assessed using categorical options: have never discussed HIV testing/serostatus with partner, at start of relationship, prior to sexual activity, after sex, after a crisis (e.g. emergency contraception), or other. This was then collapsed as a dichotomized variable, categorized as presence or absence of communication with current or most recent partner. Six categorical options were provided for respondents to describe the status of their current or most recent sexual relationship: relationship with no sexual activity, one casual partner, one committed partner, multiple partners, one of who was/is my primary partner, multiple partners, none of who was/is my primary partner, and other. Based on frequencies of responses, this independent variable was also collapsed to a trichotomized variable during the analysis stage: relationship with no sexual activity, casual partner, and committed partner. History of HIV testing was the main dependent variable. Other covariates examined as confounders included sexual history and behavior, acculturation status, and demographic variables such as age, ethnic identity, and place of birth.

Participants were selected using a convenience sampling technique based on the following criteria: (a) self-identified Chinese or Chinese American; (b) heterosexual females; (c) 18-24 year olds; (d) a student at one of the four participating community
colleges; and (e) have had sexual intercourse. Recruitment took place at student health centers, HIV testing clinics, ethnic student clubs, and high traffic areas using flyers, postcards, approaching targeted individuals, and classroom presentations. The snowball recruitment method was also utilized to increase response rates by encouraging participants to pass along the recruitment postcards to their friends and classmates who met the study criteria. Email invitations to participate were also sent to students who met the ethnic, age, and gender criteria at one campus. The study was also posted on one college’s website and on one social networking internet portal (Myspace). To improve response rate, incentives including an iPod, $100 cash, and a campus parking permit for one term were offered. Participation in the study was on a voluntary basis, while respondents and responses were anonymous. Prior to data collection, the Institutional Review Board (IRB) at Loma Linda University approved the research study.

**Statistical Analysis**

Raw data from the quantitative survey collected on the SurveyMonkey website was downloaded onto an SPSS database where it was cleaned for outliers and missing values prior to analysis, combined with paper/pencil survey results. The Pearson chi-square test was calculated to determine associations of demographics and sexual behavior with relationship status, and the association of relationship status with history of HIV testing and partner communication. Multiple logistic regression was used to examine what variables were associated with whether or not participants have had an HIV test (the dependent variable) using the simultaneous or “enter” method in two blocks. The first block of predictor included age, place where respondents received
most of their primary and secondary education, condom used during last sexual intercourse, ethnic identity, place of birth and the degree of acculturation. The second block of predictors examined the absence or presence of partner communication, collapsed into three categories as never communicated, communication occurred at start of relationship or prior to sexual activity, and after sexual activity; and the frequency and comfort level (continuous variables) of discussing HIV prevention including getting an HIV test.

RESULTS

Participant Characteristics

The study included a sample of 230 Chinese/Chinese American college heterosexual females who have had sexual intercourse, operationalized as oral, vaginal, and/or anal penetration. Even though the study focused on one specific ethnic group, demographic data illustrates the heterogeneity of the population as it relates to identity, place of birth, and sexual practices (Table 1). The table also presents disaggregated data in regards to relationship status, namely single or in relationships with no sexual activity, casual partnerships, and committed partnerships. Slightly more than half (56%) of respondents were American-born, while the remaining were born in China, Hong Kong, Taiwan, and Southeast Asia. In describing one’s ethnic identity, respondents were given the opportunity to select Chinese, Taiwanese, and the dual “American” identity (e.g. Chinese-American, Taiwanese-American). For ease, however, the ethnic identity category was collapsed, though data for each specific group is available by contacting the first author.
The respondents' dating patterns were fairly homogamous, with an overwhelming majority having or had Asians/Asian American partners and more than half with Chinese partners. The sample is a moderately acculturated group with a mean total score of 2.8 on a five-point Likert scale. Those born in the US had a mean score of 3.17 while scores for those born abroad was 2.31 \[t(222)=14.02, p < .001\]. There were also marked differences in acculturation patterns in regards to ethnic identity. Respondents who identified as Chinese Americans or of Chinese mixed heritage scored higher (3.16 and 3.22, respectively) compared to those who identified as Chinese, Taiwanese, or Taiwanese Americans (2.46, 2.13, and 2.86, respectively).

Overall, three out of five respondents (60%) reported being in a committed relationship, approximately one in five (21%) in a casual relationship, and nearly one in five (19%) were single or in a relationship with no sexual activity. All respondents of Chinese mixed heritage were in a relationship of some nature.

Age of sexual debut was 16.98 for those who were single or were in a relationship with no sexual activity, 16.78 for those with casual partners and 17.04 for those with committed partners, though differences were not statistically significant. Overall, respondents reported conservative numbers of sexual partners. Those in casual relationships had a mean of 1.88 partners in the last year, while those in committed relationships had a mean of 1.25 partners \[t(222)=2.34, p = .023\]. For lifetime partners, the difference was more pronounced, with 3.93 partners for those in casual partnerships and 2.81 among committed partnerships \[t(222)=2.41, p = .019\]. Condoms were the most frequently used method of contraception (57%), followed by oral contraceptives (22%) and then no contraception (10%), which may partially explain the relatively high
rate of emergency contraceptives used (37%). Condom use during last sexual intercourse was slightly higher for those in committed partnerships (33%) than those in casual partnerships (14%), resulting in statistically significant differences ($p < .001$).

**Relationship Status, Partner Communication and History of HIV Testing**

Overall, 29.6% of total respondents had ever obtained an HIV test (Table 2). Among those who identified as either single or were in a nonsexual relationship, slightly more than 1 in 10 ever tested, whereas more than 3 in 10 of those who are engaged in casual or committed partnerships ever tested (12%, 35% and 33%, respectively; $\chi^2(2, 223) = 7.35, p = .03$). Those who had been tested also communicated with their partners about HIV testing or HIV serostatus significantly more often (83.3% versus 40%; $\chi^2(1, 210) = 32.26, p < .001$), or over twice more among those not tested. Pronounced differences were detected when communication did occur, depending on history of HIV testing, whereby discussion most often took place at the start of the relationship or prior to sexual activity (60.3% for those who have tested versus 33.3% for those who have not tested), rather than after sex (22.4% for those who have tested versus 5.4% for those who have not tested), compared to no discussion (17.2% for those who have tested versus 61.2% for those who have not tested; $\chi^2(2, 205) = 35.59, p < .001$).

**HIV Serostatus Disclosure and Relationship Status**

In regards to knowledge of HIV serostatus among all respondents, less than half were aware of their own HIV serostatus (47.3%; $p = .01$), while only 29.9%, regardless of their relationship status, have ever disclosed their HIV serostatus (Table 2). When there was disclosure of HIV serostatus, those in committed relationships were
significantly more willing to reveal their status than those in casual relationships (37% versus 27.7%, \( p = .01 \)). Over one-fourth (28.8%) of respondents’ partners revealed their serostatus, with significantly higher patterns among those who were in casual than committed partnerships (33.1% versus 31.3%, \( p = .016 \)).

**Factors Predicting History of HIV Testing**

Multiple logistic regression analyses revealed a number of variables associated with a history of HIV testing, including the presence or absence of partner communication about HIV testing/serostatus. The first analysis, with the overall regression model being significant, indicated that older age (OR = 1.4, 95% CI = 1.11, 1.76, \( p = .004 \)), lack of condom used during last sexual intercourse (OR = .32, 95% CI = .13, .77, \( p = .011 \)), ethnic identity dichotomized as Chinese American/Taiwanese American/mixed Chinese heritage versus Chinese/Taiwanese (OR = .18, 95% CI = .05, .73, \( p = .016 \)), and higher degree of acculturation (OR = 3.4, 95% CI = 1.06, 11.02, \( p = .04 \)) were significant factors related to having an HIV test, and accounting for 20% of the variance in HIV testing status. The second multiple regression analysis included partner communication, which was a significant independent predictor of HIV testing history (\( p < .001 \)), accounting for 35%, or an extra 15 percentage points of the variance. Each of the communication occurrences about HIV testing/serostatus was an independently significant predictor compared to never having discussed: discussed at start of relationship or prior to sexual activity (OR = 8.50, 95% CI = 2.37, 30.44, \( p = .001 \)), and discussed after sexual activity (OR = 27.76, 95% CI = 4.89, 157.82, \( p < .001 \)).
COMMENT

This is one of the first studies to examine HIV testing behavior and its association with partner communication and relationship status among a disaggregated Asian Pacific Islander group, specifically Chinese/Chinese American community college women. Young adulthood, and in particular the college years, is a critical time for the development of interpersonal relationships and has become a central preoccupation for many. The fact that four out of five women in this sample of sexually experienced subjects, an overwhelming majority, were engaged in some level of dating partnerships, makes this topic and its influence on sexual behavior an important issue to address.

This study allowed respondents to choose from a disaggregated Chinese ethnic identity. Although Chinese and Taiwanese populations share similar language and cultural background, there are differences that exist in lifestyle and social background. For example it has been shown that there are differences in the degree of exposure to Western culture for international students coming from China and Taiwan; therefore, regarding them as a single group may not fully appreciate the differences between Chinese sub-groups. This study allowed an opportunity to examine differences among Chinese and Taiwanese students while taken into account factors such as acculturation and generation status.

Demographic and Sexual Behavior

Age of sexual debut (M=16.97) in this sample population is higher than other ethnic groups. A partial explanation may be due to the high number of international students (13%) represented in the sample. Anecdotally, the most frequent reason that
disqualified students from participating in the study was their virginity status. While a later age of sexual initiation may be a possible protective factor for risky sexual behaviors, API college students have been found to engage in similar risk-taking activities after becoming sexually active.\textsuperscript{32}

**HIV Testing Rates, Relationship Status, and Partner Communication**

Throughout the literature, there appears to be two primary categories describing sexual partnerships: casual and committed partners/relationships, with some variations in-between. In recognition of the fact that romantic partnerships are not always easily classified or examined in a binary manner, this study offered six categorical options for respondents to describe the status of their current or most recent sexual relationship. Results indicated a fair amount of diverse partnerships, though not enough for analysis to be meaningful, resulting in the categorization into casual versus committed partnerships.

The slightly higher rates of HIV testing history found in casual (35\%) compared to committed (33\%) partnerships were unanticipated. We expected higher testing rates among those in committed partnerships because a previous study suggested such individuals would be more genuinely motivated to protect their partners, thus more likely to get tested for HIV and share test results.\textsuperscript{11} It may be that being in a committed relationship evokes a sense of security and responsibility or less of a need to get tested, which may prompt individuals to engage in a conversation about their sexual history, including HIV testing or serostatus. Further research will need to examine if being in a casual partnership may be a motivating factor for people to seek an HIV test.
Being able to communicate openly and honestly, particularly about sex, is a key component to healthy relationships, and may ultimately also allow for safer sexual engagements. Morrill and Noland\textsuperscript{33} explored interpersonal issues faced by women who obtained HIV tests and found that they appeared to have lower HIV risks because of better communication with committed partners, compared to those with casual partners. In our sample, however, almost half (49\%) of respondents indicated they had never discussed HIV testing or serostatus with their partners (among this group that never discussed, only 10\% had obtained an HIV test). Among the 51\% of respondents who had discussed HIV testing or serostatus with their partners, 46\% reported a history of HIV testing. This finding is consistent with previous research where Vietnamese students were found to be less comfortable than Whites, Hispanics, Blacks, and other Asian ethnic groups in asking a partner about his or her sexual history or requesting the partner to get an HIV test.\textsuperscript{34} Furthermore, only 29\% of students in our sample asked their partner’s serostatus. Perhaps encouraging individuals to obtain an HIV test may also generate an increased sense of comfort in communicating with their partners about sexual related matters.

The influence of sociocultural factors may offer a contextual understanding to the lower levels of partner communication found among Chinese/Chinese American college women in this study. In Chinese culture (and the dominant Asian culture), sex is considered a taboo topic, and open and direct discussion of such matters is discouraged, especially for women. Sex-related matters are often times communicated in signals and codes. For example, “cloud” and “rain” have been used as metaphors to characterize sexual intercourse, with cloud representing the ovum of the earth and rain
as the sperm of the sky.\textsuperscript{35} Nearly one-third (31%) of respondents had been in the US for 5 years or less, suggesting that such students were most likely predisposed to a different set of expectations and social norms about romantic dating and related conversation topics from mainstream American culture, or even from the Asian American culture. In fact, of the respondents who had been in the US for 5 years or less, 32% communicated with their partners about HIV test/serostatus, compared to 59% of respondents who have been in the US 6 years or longer ($p < .001$). A study of mainland Chinese students found that many experienced an internal conflict between the traditional Chinese cultural views and the exposure to the outside world when it comes to sexuality.\textsuperscript{36} Gender expectations might also suggest that speaking about sex or initiating such conversations is socially unacceptable.\textsuperscript{7}

Acculturation is a factor that has considerable influence on sexual behavior, such that more acculturated women are more likely to report multiple partners.\textsuperscript{37} Mean acculturation scores were highest among those in casual partnerships compared to those in committed partnerships and those currently in partnerships with no sexual activity ($M=2.92$, $M=2.87$, and $M=2.39$ respectively, $p \leq .001$). In this analysis, those with "multiple partners, one of whom is/was a primary partner" and those with "multiple partners, none of whom is/was a primary partner" were collapsed into the casual partnership category. Lam and colleagues\textsuperscript{22} discussed the notion of "out-group negativity bias" in their study on Chinese and Filipina college women in the Bay Area, and noted that perception of a sexual partner who is of a different ethnicity/race is of greater risk of having an STD than a partner from within the group. This idea was reflected in the communication patterns in our study in which respondents and their
partners mutually inquired about serostatus. Only 15% of respondents who had Chinese partners engaged in mutual serostatus disclosure, while 23% of respondents who had other Asian partners did so ($p \leq .001$). For those who dated non Asians, slightly more than a third (36.5%) exchanged serostatus information compared to those who have dated only Asian partners.

**Implications for Health Education**

The fact that almost half of Chinese/Chinese American college women in this sample reported that they do not communicate with their partners about HIV testing or serostatus offers a window of opportunity for creative interventions by campus health clinicians and health educators. Engaging such patients in skill-building aimed at increasing their self-efficacy to initiate such discussions could be done during varying types of health center visits, such as when students undergo gynecological exams, seek emergency contraception, or obtain STD or HIV testing. This could be as minimally time-consuming as a one-minute role playing exercise. Asian Americans are often overlooked by clinicians as being a population with minimal health concerns, partly due to the “model minority” myth. It is therefore essential that providers consistently and proactively inquire about HIV testing, status, and communicating about partner’s risks. Since Asian Americans generally have a high level of respect for health care professionals and thus are more likely to adhere to their medical advice, clinicians may play a key role in improving the level of partner communication regarding sexual health.

Health educators can also work with students on an individual basis to help develop better communication skills about sexual health, while broader campus-wide
health promotion efforts can focus on delivering culturally appropriate social marketing messages empowering women to initiate conversations about HIV testing with their sexual partners. In 2007, San Francisco Public Health Department conducted a city-wide campaign that encouraged the MSM (men who have sex with men) population to disclose their HIV status as a means of HIV prevention, a concept known as “serosorting” wherein individuals choose sex partners of the same HIV serostatus. Perhaps a similar intervention can be created using culturally and gender appropriate messages to encourage Chinese/Chinese American college students to discuss HIV serostatus with their partners.

Suggestions for Future Research

While this study sheds light on how partner communication and relationship status may impact the decision among Chinese/Chinese American college women to obtain an HIV test, more research is needed to improve our understanding of these dynamics. We need to examine what are the most culturally appropriate partner communication methods that this population would feel comfortable utilizing when inquiring about their partners’ sexual history, including HIV serostatus. More attention can also be focused on exploring how Chinese/Chinese American college women conceptualize dating relationships and its impact on decisions regarding adopting safer sexual practices. It is also important to bear in mind that not everyone considers the people they have sex with as their “partners” per se because definitions and characteristics of a partner vary widely. As such, researchers and practitioners should explore varying perceptions and conceptualizations of such labels.
Limitations

There are limitations to this research based in part on the selected study design and sampling. Despite the limitations, a feature of the study that strengthened the design and contributes to the literature was the disaggregation of data by focusing on one specific ethnic group, which is needed to advance the API health research agenda. Since this was a cross-sectional design, it was not possible to determine causality. For example, it is not known if history of testing led to a student’s selection of a sexual partner and the level of commitment with which to engage, or that whether communication between partners were precursors or likely to be consequences of the decision to obtain an HIV test. This was an exploratory study that required the use of a purposive and convenience sampling, therefore, the nonrandom sampling technique limits the generalizability of the results. Self-selection may also have biased the results because students who visited the health center may have been more concerned about their health status and may also have higher levels of HIV prevention awareness if they see a healthcare provider about reproductive and sexual health concerns. Targeted outreach to high traffic areas around campus and the use of multiple campuses, however, helped decrease that bias. Data gathered from the questionnaire were based on self-reports, which involves recall biases and other limitations. Therefore the focus on the last or most recent sexual relationship minimized recall errors but limited the scope of their sexual experience.\(^3^9\) Self-reports may have also been prone to social desirability bias, though it is nearly impossible to obtain information any other way given the multitude of variables that were examined.
In conclusion, as one of the first studies to examine characteristics related to HIV testing behavior among a disaggregated API group, results indicated that relationship status and partner communication were associated with a history of testing. The fact that almost half of Chinese/Chinese American college women in this sample do not communicate with their partners about HIV testing or serostatus suggests a need to develop interventions that will increase communication skills, while taking into account sociocultural factors.
Table 1: Demographics and Sexual Behavior of Sample Population, Categorized by Relationship Status (N=230)

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Table 1: Demographics and Sexual Behavior of Sample Population, Categorized by Relationship Status (N=230), continued.

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<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Partners in last year (N=219)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>12</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>1 partner</td>
<td>20</td>
<td>9</td>
<td>22</td>
<td>10</td>
<td>96</td>
</tr>
<tr>
<td>2 partners</td>
<td>3</td>
<td>1</td>
<td>17</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>3 or more partners</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Condom use during last intercourse (N=227)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28</td>
<td>12</td>
<td>32</td>
<td>14</td>
<td>74</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>2</td>
<td>17</td>
<td>8</td>
<td>60</td>
</tr>
<tr>
<td>Don't remember</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>History of STD (N=229)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, never been tested</td>
<td>32</td>
<td>14</td>
<td>24</td>
<td>10</td>
<td>70</td>
</tr>
<tr>
<td>No, tested and negative</td>
<td>7</td>
<td>3</td>
<td>24</td>
<td>10</td>
<td>61</td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Method of contraception (N=228)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No contraception used</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Condoms</td>
<td>25</td>
<td>11</td>
<td>28</td>
<td>13</td>
<td>76</td>
</tr>
<tr>
<td>Oral contraceptives</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>4</td>
<td>37</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Use of emergency contraception (N=228)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>4</td>
<td>24</td>
<td>10</td>
<td>52</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>14</td>
<td>26</td>
<td>11</td>
<td>86</td>
</tr>
</tbody>
</table>

* Statistically significant at .01. Due to the number of statistical tests performed, the criterion was adjusted to p < .01.
* Total % exceeds 100%, because respondents were allowed to check all that apply.
Table 2. Relationship Status and Partner Communication with History of HIV Testing

<table>
<thead>
<tr>
<th>Relationship status and History of HIV Testing*</th>
<th>% Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single/no sexual relationship</td>
<td>12</td>
</tr>
<tr>
<td>Casual partnership</td>
<td>35</td>
</tr>
<tr>
<td>Committed partnership</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partner communication and History of HIV Testing**</th>
<th>% Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never discussed HIV testing/serostatus with partner</td>
<td>10</td>
</tr>
<tr>
<td>Discussed HIV testing/serostatus at start of relationship or prior to sexual activity</td>
<td>42</td>
</tr>
<tr>
<td>Discussed HIV testing/serostatus after sexual activity</td>
<td>62</td>
</tr>
</tbody>
</table>

*p = .025
**p = < .001
References


CHAPTER 6
OTHER FINDINGS

This chapter discusses the last research question of this dissertation: what cultural factors promote or discourage partner communication on HIV testing? It also includes other findings that were not discussed in Chapters 4 and 5.

A. Cultural Factors and Communication on HIV Testing

Cultural factors have been found to influence sexual behaviors and communication patterns. For instance, acculturation and the comfort level in asking medical professionals about HIV information were significant variables of higher self-efficacy levels (Takahashi, Magalong, DeBell, & Fasudhani, 2006). Asian Americans also have higher use of indirect communication and less open communication style than their White counterparts (Park & Kim, 2008). The creator of the SL-ASIA scale, which this study utilized to determine the level of acculturation among study participants, suggests that acculturation and self-identity may be useful factors in the prediction of behaviors when it comes to topics that offer “free-choice,” such as the selection of dating partners (Suinn, 1995).

Table 1 presents results of whether cultural factors, namely the level of acculturation, ethnic identity, and place of primary and secondary education, revealed any significant differences in communication about HIV testing. Participants who reported communication with their partners were more acculturated (mean=2.95) compared to those who did not report communication (mean=2.62; \( p < .001 \)). Individuals who are more acculturated typically adopt more Western social norms, such
as more direct communication with their sexual partners. Patterns of communication were inversely proportional between participants who expressed Chinese-centered identities and those with American-centered identities. Ethnic identification, specifically when assuming American-centered identities, had a significant influence in partner communication about HIV testing \( (p = .009) \). Additionally, participants who received most of their primary and secondary education in the US were nearly twice as likely to have communicated with their partners when compared to those who were educated abroad (61.5% versus 32.9%; \( p < .001 \)). Exposure of HIV prevention messages and perhaps Western social norms that value open and direct communication may have helped facilitated communication of those in the former group. The classification of ethnic identity in Table 1 is slightly different than what was illustrated in the demographics table of Chapter 4. There, ethnic identity was broken down according to the following categories: Chinese/Chinese American, Taiwanese/Taiwanese American, and Chinese mixed. Chinese-centered and American-centered identity categories were selected in this chapter because it was logical to examine the level of acculturation in this manner. The adoption of the host country’s identification, which in this case is “American,” reflects a more acculturated sense of identity.

**B. Multiple Regression Analysis of HIV Testing**

Table 2 represents the results of multiple regression analysis of HIV testing discussed in narrative in Chapter 4. It is included in this chapter because of the limitations on the number of tables of the journal to which the manuscript was submitted.
C. HIV Testing Rates

Table 3 summarizes results of HIV testing rates presented throughout the dissertation. Testing rates were categorized into four groups: the general population and the three broader categories in which the study sample comprise, namely women, college students, and APIs. As the table illustrates, HIV testing rates varied widely depending on the population and among local, state, and national surveys.
Table 1. Cultural Factors and Partner Communication about HIV Testing/Serostatus

<table>
<thead>
<tr>
<th></th>
<th>Partner Communication</th>
<th>Absent</th>
<th>Present</th>
<th>( p ) Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean acculturation scores</td>
<td></td>
<td>2.62</td>
<td>2.95</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Ethnic Identity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese American, Taiwanese American, and Chinese mixed</td>
<td></td>
<td>40.5%</td>
<td>59.5%</td>
<td>.009</td>
</tr>
<tr>
<td>Chinese, Taiwanese</td>
<td></td>
<td>57.7%</td>
<td>37.3%</td>
<td></td>
</tr>
<tr>
<td>Place of primary &amp; secondary education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td></td>
<td>38.5%</td>
<td>61.5%</td>
<td></td>
</tr>
<tr>
<td>Abroad</td>
<td></td>
<td>67.1%</td>
<td>32.9%</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>
Table 2. Multiple Regression Analysis of HIV Testing*

<table>
<thead>
<tr>
<th>Submodel 1: Age, Ethnic identity, Condom use during last intercourse</th>
<th>R² = .16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>Age</td>
<td>.359</td>
</tr>
<tr>
<td>Ethnic identity</td>
<td>-1.000</td>
</tr>
<tr>
<td>Condom use during last intercourse</td>
<td>-0.936</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Submodel 2: HBM Constructs b R² = .34</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Place of primary &amp; secondary education</td>
</tr>
<tr>
<td>Condom use during last intercourse</td>
</tr>
<tr>
<td>Self-efficacy</td>
</tr>
<tr>
<td>Perceived barriers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Submodel 3: Acculturation c R² = .35</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Place of primary &amp; secondary education</td>
</tr>
<tr>
<td>Condom use during last intercourse</td>
</tr>
<tr>
<td>Self-efficacy</td>
</tr>
<tr>
<td>Perceived barriers</td>
</tr>
</tbody>
</table>

*Only significant variables are presented in the table.

Note: other variables that were included in the model but were not statistically significant.

a = Place of primary & secondary education, place of birth, relationship status

b = Ethnic identity, place of birth, relationship status, perceived susceptibility, perceived seriousness, perceived benefits

c = Ethnic identity, place of birth, relationship status, perceived susceptibility, perceived seriousness, perceived benefits, acculturation
Table 3. Cross Comparison of HIV Testing Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Study</th>
<th>General population</th>
<th>Women</th>
<th>College students / Young Adults</th>
<th>APIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>This study: Chinese/Chinese American community college students</td>
<td></td>
<td></td>
<td>30% of 18-24</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>Consortium of 13 California community colleges (ACHA, 2007)</td>
<td></td>
<td></td>
<td>44% of female students, all ages</td>
<td>31% of API females</td>
</tr>
<tr>
<td>2006</td>
<td>Women’s Health USA 2006 (Data from National Health Interview Survey) (US DHHS, 2006)</td>
<td>35%</td>
<td>37.3%</td>
<td>40.3% of 18-24</td>
<td>33.3% Asian women</td>
</tr>
<tr>
<td>2006</td>
<td>Testing among young adults in the US: associations with financial resources and geography (Nguyen et al., 2006)</td>
<td></td>
<td></td>
<td></td>
<td>10.8% for API young adults</td>
</tr>
<tr>
<td>2006</td>
<td>California Health Interview Survey (Holtby et al., 2006)</td>
<td>63.5%</td>
<td></td>
<td>65.5% of 18-24</td>
<td>69% for APIs, 61.1% for Chinese</td>
</tr>
<tr>
<td>2005</td>
<td>Shift in reasons why adults seek HIV testing in the US: policy implications (data from National Health Interview Survey) (Inungu et al., 2005)</td>
<td>34.7%</td>
<td>60.2%</td>
<td>11.5% of 18-24</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>HIV Risks &amp; Testing Behavior among APIs – results of HITS, 2002-2003 (Kahle et al., 2005)</td>
<td></td>
<td></td>
<td></td>
<td>64%</td>
</tr>
<tr>
<td>2004</td>
<td>California HIV Counseling and Testing Annual Report, 2004</td>
<td></td>
<td></td>
<td>24% among 20-29</td>
<td>6%</td>
</tr>
<tr>
<td>2001</td>
<td>Perceived susceptibility to HIV infection among API women (Cooper et al., 2001)</td>
<td></td>
<td></td>
<td></td>
<td>18%</td>
</tr>
<tr>
<td>2000</td>
<td>CDC HIV/AIDS Special Surveillance Report, HIV Testing Survey</td>
<td>74% ever tested, 47% tested in past year</td>
<td>82%</td>
<td>62% of 18-24</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>Sexual behavior and AIDS-related knowledge among community college students in Orange County, CA (Shapiro et al., 1999)</td>
<td></td>
<td></td>
<td>30% tested previous, 58% intend to, 25% of partners tested</td>
<td></td>
</tr>
</tbody>
</table>
A. Summary and Implications of Findings

Among the 230 Chinese/Chinese American community college women in this study, 29.9% have had an HIV test. The most commonly cited reasons leading to a decision to obtain an HIV test were “to just find out,” “having had unprotected sexual intercourse,” and “having had sex with a new partner.” The response of “to just find out” may in fact mask a more specific reason, which remains hidden due to the taboo nature of sexual topics, particularly the stigma associated with HIV and STDs, in the Asian culture. Highlighting some of the reasons participants cited for getting an HIV test as part of a campus-wide social marketing campaign will influence other students to think about their own behaviors and whether such behaviors warrant a compelling reason to get tested.

Among those who never tested, low levels of perceived susceptibility and uncertainty of testing sites were the most commonly cited barriers. Given that individual behavior change seems to be a less effective strategy in reaching this population because of the collective nature of Asian cultures, community-level interventions that address the stigma and other culturally-rooted norms should be considered. As part of the college experience, students are learning for the first time how to navigate the healthcare system on their own and becoming their own advocates. Promoting the importance, availability, and accessibility of HIV testing services by offering it as part of other health services (e.g., pap smears, STD testing, physicals,
HPV vaccine) that can be obtained on campus will also help to institutionalize HIV testing as a routine test. For instance, normalizing the process by creating a ‘Let’s test together’ campaign may help to reduce the fear and stigma associated with testing and do so in the spirit of collectivism and a sense of community responsibility. Student health centers have the opportunity and responsibility to effectively address access to HIV test sites by partnering with community-based agencies to provide such services, if they do not have the capacity to provide it internally.

Multiple logistic regression analysis revealed older age, American-centered ethnic identity, lack of condom use during last intercourse, lower perceived barriers, and higher self-efficacy to be significant predictors of HIV testing history. Chinese/Chinese American college students who assumed a more Chinese-centered identity reported lower testing rates compared to those with more American-centered identities. Framing HIV prevention and testing messages in the context of conforming to more mainstream culture behavioral norms is one possible strategy to consider. This is not to suggest that such interventions are geared towards shifting people’s identity to a more acculturated one, but rather engaging in a more culturally sensitive approach when planning educational and intervention programs for this population.

The majority of Chinese/Chinese American college women in this study reported currently being in sexually active dating partnerships (61% committed and 21% casual), while the remaining (18%) reported being single or in a relationship with no sexual activity. Among the sexually active participants, those in casual relationships had higher HIV testing rate than those in committed relationships (35% versus 33%, respectively). Slightly over half (51%) of the respondents reported discussing HIV
testing or serostatus with their partners, a finding somewhat less than with previous research. Only 29% of the respondents inquired about their partner’s serostatus (Hou, 2003). This was not a surprising finding given the preference for indirect and nonverbal communication that is socially ingrained in Asian cultures, and especially expected of Asian women.

The respondents with higher levels of acculturation, ethnic identity that was more American-centered, and their primary and secondary education in the US reported higher levels of communication regarding HIV testing. All of these variables are closely related to the amount of exposure to HIV prevention messages embedded in mainstream American social culture.

B. Implications for Health Education Practice

Dr. Dorothy Nyswander, one of the most notable pioneers in the field of health education, was committed to the idea of an “open society,” characterized as the acceptance of and support for diversity in society, and the use of society in creative ways. It is a philosophical base for health educators to look at health education as a component of social policy. While the HIV/AIDS epidemic is one of the most pressing global, social, and public health issues we face today, the recently noted decreases in overall prevalence send an encouraging message that prevention and intervention efforts may make an impact in eradicating this disease. Health disparities in HIV/AIDS demand that we examine this disease creatively in our diverse society, a testament to Dr. Nyswander’s “open society.” This is even more critical because HIV/AIDS is the most politicized health issue ever to emerge.
This dissertation research focused on an understudied population that is often times overlooked because it is seen as a group at low risk for HIV infection, and thus have been excluded from the collective movement to combat this disease. Chinese/Chinese Americans and the broader Asian American community have been consistently excluded from surveillance data or categorized as “other,” providing very little useful data for the community to plan appropriate interventions. Even when more attention was directed to this ethnic community, much of it was focused on men who have sex with men, once again leaving Asian women out of the research and intervention arena. The fact that Asian American females experienced the highest statistically significant percentage increase among all racial/ethnic groups in HIV/AIDS diagnosis rates (14.3%) from 2001-2004 desperately underscores the need to direct programmatic and research efforts to this population in order to examine the basis for this increase. This must be done in a disaggregated manner.

Findings from this study are expected to contribute to the limited existing literature and provide disaggregated data on a specific API subgroup to health educators planning culturally appropriate and effective HIV prevention programs. The reasons most often cited for testing can be incorporated into social norm messages to encourage increased HIV testing among this population. Health communication messages that address cultural barriers will strengthen the impact of health education and assist health professionals in reaching underserved populations.

A brief examination of the historical response to the HIV/AIDS epidemic in the US provides an interesting perspective on where and how we as a community are addressing HIV prevention and intervention efforts among Chinese/Chinese American
women, or even Asian American women as an aggregate group. The first 4 years of the HIV epidemic in the early 1980s was a time of fear and discomfort, because transmission of HIV was not yet identified. At that point, information dissemination was the primary basis for behavioral change. As the second phase of the epidemic emerged, fear continued to build as there was uncertainty as to where the disease was headed with no effective treatment in sight. As a result, communities began to mobilize locally and nationally with the hope of changing risky behaviors.

During the early and mid 1990s, community prevention programs that focused on how prevention messages were being targeted took center stage. Then with the proliferation of new drugs that shifted people's attitudes towards HIV from a death sentence to a chronic disease, some of the initial fears were replaced by complacency. At the same time, the heterosexual community was experiencing the impact of the disease as transmission was being increasingly detected among women who have sex with men. At the turn of the century, however, with the “Millennial” generation entering adolescence and young adulthood, we are faced with a set of new challenges. This generation does not know a world without HIV/AIDS, but rather a world in which HIV prevention messages have (for the most part) been incorporated in academic curriculum, mass media, and social culture.

The “Millennial” generation, along with the heterosexual community, is where Chinese/Chinese American college women fit along the spectrum of the national response to HIV. Fear and discomfort is pervasive in this community, and information dissemination is still working its way to reaching the intended audiences. We are still at the early stages of gathering empirical data for many of our subpopulations. This is
evidenced by the fact that very few studies exist that evaluates the effectiveness of interventions or mass media campaigns. While college students attending 4-year university campuses are typically seen as a more socially privileged group, and thus have been widely studied, 2-year community colleges on which this study focused and which has its own distinctive social demographics have not. By addressing this nontraditional gender and ethnic group, this study is a step in the direction of embracing the “open society” paradigm.

C. Recommendations for Future Study

While the findings from this study will contribute to the literature with concrete data on HIV testing patterns of Chinese/Chinese American community college women and examination of socio-contextual factors associated with such behaviors, more research is needed to guide the development of culturally appropriate interventions for this group. Studies on constructs of the health belief model, such as raising the level of perceived susceptibility to HIV infection, reducing the level of perceived barriers and raising the level of perceived benefits of HIV testing, and strategies to increase self-efficacy to obtain testing among this population can be evaluated. Examination of the most culturally appropriate partner communication methods that this population would feel comfortable utilizing when inquiring about their partners’ sexual history, including HIV serostatus, is also an area that warrants further investigation.

Given the high levels of homogamy in the respondents’ selection of dating partners, a worthwhile counterpart to this research may be one that focuses on Chinese/Chinese American and/or Asian American male students addressing similar
research questions, particularly since Asian American males tend to date within their own racial and ethnic groups more so than their female counterparts.

Recruitment of participants was the most challenging component of this research project. Incorporating lessons learned from previous research and suggestions from advocates working in the trenches of HIV prevention in ethnic communities was of immense help. Despite the preparations taken in anticipation of conducting research in this community, a number of unforeseen challenges emerged that are noteworthy for other researchers to consider in future studies.

Focus groups were used to help develop the survey instrument for this study. Focus group respondents were assembled in small homogenous groups, allowing for a safe space in which participants can talk freely and openly about their ideas and concerns on a number of sexual health and dating topics. The open-ended format of the focus group was especially helpful, particularly in bringing insight into the range of dating partnerships with which the study population is familiar. The use of focus groups would be helpful when researching any particular ethnic group.

The research assistants were representative of the targeted population in terms of age, gender, and ethnicity. In addition to such similarities helping to create rapport, given the sensitive nature of the topics studied, it was also helpful that the research assistants were comfortable about the subject matter and responsive when engaging in discussions during the recruitment process.

Securing the support of student health center directors at each participating schools was integral to the success of the project because they are the gatekeepers on campus and provide leadership on campus-wide health issues. One health center

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director's close relationship with the director of Admissions and Records resulted in a list of email addresses of students that met the gender, ethnic, and age criteria of this study. An email to this list soliciting participation in this study resulted in a response rate of 46%, and, while not all who responded met the study criteria, the response rate can be considered fairly high for a web-based study with the college population (ACHA, 2007). This was encouraging, suggesting that perhaps ethnic specific research offers an intrinsic value that yields higher participation rates. Another health center director orchestrated in-person introductions to key figures on campus, including the dean of multicultural studies, who in turn sent emails to faculty members encouraging them to make announcements about the study in their classes; and the coordinator of the international students division, who also sent an email announcement to all international students to encourage participation.

Participant recruitment for dissertation research is challenging since often times limited funding does not allow the luxury of hiring research assistants to support the data collection process. Participant recruitment for this study involved an assortment of methods (Graph 2). Although thought to be of an ideal place to reach students for a health related study, it was acknowledged early on that recruitment beyond student health centers was essential to reaching not only a broad representation of Chinese/Chinese American females, but to reach a sufficient sample size. Approximately 16% of participants were recruited at such sites through the invitation of healthcare providers or front desk staff, and by test counselors during HIV testing clinics.
A number of faculty members in disciplines such as psychology, biological and health sciences, Chinese language, and Asian American studies were gracious in welcoming the student investigator and research assistants to make brief classroom presentations and recruit participants. This method, however, only yielded a few participants (4%) because of the limited number of students who actually met the study criteria. Word-of-mouth and posting of flyers and postcards resulted in slightly higher numbers (5% each). Campus outreach in the form of directly approaching Asian females who appeared to be in the 18-24 age group was the most effective recruitment method, accounting for 70% of participants, underscoring the importance of engaging on an individual level about sensitive and privately regarded topics such as sexual health.

The classification of recruitment methods for this study may be useful for others who wish to engage in health research projects with a similar population. The experience and challenges in collecting data for this study clearly demonstrates that a multi-faceted approach must be taken to ensure a representative and sufficient sample size. While campus outreach in the form of one-on-one approach is a laborious and time-consuming process, it accounted for the majority of participants recruited. Perhaps outreaching to students who declined participation may have also resulted in unintended consequences in the form of raising awareness about sexual health and API health research topics, and thus can be regarded as an educational window of opportunity.

Initially, data collection for this research study was solely conducted using a web-based survey. Even though email response rate of 46% from the one campus was
relatively high, the total email-solicited response rate did not yield the sample size needed to complete the research before the fall term ended. Therefore, after obtaining IRB approval, data collection methodology was expanded to include a pencil-paper version of the survey. Expanding the methodology resulted in the timely and sufficient number of participants necessary for the completion of the study.

The low response rate to the web-based survey was unexpected given that the Millennial generation is comfortable with the internet, and previous research studies indicated internet surveys were effective means of data collection for this population (Kiene & Barta, 2006; Hou, 2007). The low response rate may be due to a number of factors, including the invitation email being auto-sorted into a bulk mail folder, the recipient student mistaking it as spam mail and deleting it, the lack of private environment in which to respond, the student postponing the completion of survey and then forgetting it or losing interest in it thereafter, general distrust of emails that directs the reader to follow an outside link, and possibly the general sense of lack of anonymity of web-based surveys. Researchers who wish to conduct studies on this population or Asian Americans should consider the use of multiple data collection methods to increase response rates. Aside from the targeted email recruitments, response rates were low despite the distribution of condom packets containing the name of the study and investigator’s contact information, which served as an incentive and a reminder to participate in the study.

This study focused on four community college campuses in the Bay Area, which were selected for their high proportion of Asian American students. However, the initial canvassing on one campus, Foothill College, yielded a surprisingly low
participation rate. In response, time and resources, both in terms of research assistants and media outreach (e.g., posting of flyers and placement of ad in campus newspaper) were redirected to the other campuses. One strategy that would have resulted in higher levels of participation is the employment of classroom presentations by cultivating relationships with key faculty members at the start of the fall term. This strategy was only partially implemented due to time and resource constraints.

Disaggregated enrollment data from each campus, broken down by gender, age, and specific ethnic group (as opposed to general racial identification of “Asian”) would have helped in selecting the campuses to focus on in this research, as well as helped in determining the amount of resources to allocate to the selected campuses.

This study did not ask respondents to indicate their serostatus, which may have affected their communication behavior with their partners or how they report communication behavior in the questionnaire. This is because respondents’ serostatus was not the focus of the study. Given the low seropositivity rate among API women, it can be assumed that the overwhelming majority, if not all, of the respondents who obtained an HIV test received a negative serostatus result.

**D. Limitations**

There are limitations to the interpretation of results of this study. Since this study used a cross-sectional design, it is not possible to determine causality. For example, it is unknown whether reasons for testing were precursors or consequences of sexual activity, or whether history of testing led to a student’s selection of a sexual partner and the level of commitment with which to engage. This was an exploratory study that required the use of a purposive and convenience sampling; therefore, the
nonrandom sampling technique limits the generalizability of the results. Additionally, self-selection may have biased the results, because a number of students responded to posted flyers or postcards, while others were solicited to participate in the study during their visit to the school health center. Such students, if they were visiting the student health center for reproductive or sexual health concerns, may conceivably have a higher level of HIV prevention awareness. While the data gathered from the questionnaire were based on self-reports, which may threaten internal validity due to recall error, this was minimized by focusing on the last or more recent sexual relationship. Self-reports may have also been prone to social desirability bias, though, given the multitude of variables that were examined, this was unavoidable.

Nonetheless, disaggregating of data by focusing on one specific ethnic group strengthened the design and may aid in the advancement of the API health research agenda. Lastly, the difference in treatment between the pencil-paper and web-based method of data collection as discussed in Chapter 4 may be seen as detrimental, this can also be seen as a window of opportunity which allowed pencil-paper respondents to express multiple reasons why they engaged in certain health behaviors, such as seeking an HIV test.
Figure 2. Method of Recruitment (N = 230)

- Class: 4%
- Word of mouth: 5%
- Postcards/fliers: 5%
- Student Health Center: 16%
- Campus outreach: 70%
References


University of California, Office of the President (2005). *University of California Statistical Summary of Students and Staff, Fall 2005*. Available at: [http://www.ucop.edu/ucophome/uwnews/stat/](http://www.ucop.edu/ucophome/uwnews/stat/).


U.S. Census Bureau, Census 2000. Summary File 1 (SF 1) 100-Percent Data. Table PCT 5: Asian alone with one Asian category for selected groups.


Appendix A: Pilot Survey Evaluation Questions

Pilot Survey Evaluation questions

1. How long did it take you to complete the survey?
   a. Sexual health questionnaire _____ minutes
   b. SL-ASIA acculturation scale _____ minutes

2. I think that understanding how to fill out this survey was
   a. Very difficult
   b. Difficult
   c. Just right
   d. Easy
   e. Very easy
   f. Not sure

3. Were there any questions or answer choices that were unclear or needs rewording in the following sections:
   a. Section 1 on demographics
   b. Section 2 on sexual history and behavior
   c. Section 3 on knowledge of HIV/AIDS, etc.
   d. Section 4 on HIV testing history
   e. Section 5 on HIV testing and communication
   f. Section 6 on Asian Self-Identity Acculturation Scale

4. This is an online survey. Did you prefer completing the survey online or in paper-pencil format?
   a. Online format
   b. Paper-pencil format

5. Do you have any suggestions for improving this survey?

   ___________________________________________

   Thank you for helping to pilot this instrument.
Appendix B: Focus Group Guide

Chinese / Chinese American College Women and HIV prevention
Focus group guide

Agenda:

| I. | Background on research study & objectives of focus group |
| II. | Introductions |
| III. | Ground rules – respect, confidentiality |
| IV. | Pre-focus group questionnaire |

Objectives:
Data derived from the focus group will be used to:
- Assist in wording questions for a survey
- To find out some reasons why Chinese / Chinese American women decide to get an HIV test, or not
- We want to know what words women today use to describe their relationships – i.e. casual, committed, serious, just hanging out, etc.
- Is there anything about being Chinese, culturally, that affects the way we talk to our partners about sex, contraception, disease, HIV testing, etc.?

Introduction
- Explanation of process
- Explanation of recording, consent form
- Self introductions – student status, background

Thank you for taking the time to be here today and being willing to share your thoughts on some very important issues affecting Chinese and Chinese American women. Some of the questions that will be addressed today are sensitive and quite personal. Remember that all of your responses will be kept confidential and at no time will your names or other identifying information be attached to the responses. You do not have to answer any questions you are uncomfortable with. In the interest of time, we will be keeping time and spending a limited amount on each question so we can get through all of them and be able to finish on time.

I. Let’s talking about your dating experiences first
- What is dating like as a college student?
  - Are men easy to meet?
  - Are you trying to meet potential dating partners? If so…
- Tell us your strategy for meeting new people.
• What do you call it when you go out with a guy – the first time, second or third dates? After that?
• What do you like about dating?
• What do you fear about dating?
• What is the ethnicity of your current or past partner(s)?

II. Definition of sex: There has been some discussion on the idea that sex is a taboo subject in the Asian culture.

• What are your thoughts on this?
  ➢ Do Chinese / Chinese American women talk about sex as freely as other ethnic groups you observe?
  ➢ Or do we talk about it differently? How?
• What does sex mean to you?
• Are you able to discuss sexual matters openly? With whom?
• Are you able to discuss sex with your partner?
• If so, how do you approach the conversation? How does it come up?
• Who brings up the topic first?
• If so, what topics come up? Let participants volunteer answer. If silence, then prompt with: contraception, safer sex, sexual history?
• What are some of the Chinese cultural factors that you think affect the discussion around sex?
• Do you think the cultural factors are different for Chinese women than for Chinese men?

III. Partner communication: We are interested in learning your thoughts on HIV prevention and whether this is a topic of discussion with your sexual partners.

• When people talk about HIV prevention, what does that mean to you?
• What are you ideas on how to prevent HIV? This can be ideal ways or ways you think would work.
• Do you feel that you are susceptible to HIV? Why or why not?
• Do you feel comfortable discussing the topic?
• What are your thoughts on HIV among Chinese / Chinese Americans?
  ➢ Do you think HIV is rare or fairly widespread among Chinese / Chinese Americans?
IV. HIV testing – is getting tested to find out whether a person is infected with the HIV virus. Many people get tested, either at their private doctor's office, at a community clinic, or perhaps here on campus at the student health center. We are interested in learning what are the reasons people choose to get tested, and reasons people don’t get tested.

- What are your attitudes towards getting an HIV test?
- Do you think it's a good idea to get tested for HIV?
- Have you ever been tested? Why or why not?
- How often do you get tested?
- What has your experience of testing been like?
- Do you discuss HIV status with your partner(s)?

V. Wrap-up

- Is answering these questions in written form would maximize honesty?
- Is there anything else you’d like to mention?
- Do you have any questions for us or about the research?
- Would you be interested in hearing about the results?

Research Questions
1. What factors influence the decision of Chinese American college women to obtain an HIV test?
2. What is the association between relationship status, namely casual versus committed relationships, and HIV testing among Chinese American college women?
3. Are there differences in terms of frequency and comfort level in partner communication on HIV testing between ‘casual’ versus ‘committed’ sexual partners?
4. What cultural factors promote or discourage partner communication on HIV testing?
Appendix C: Focus Group Questionnaire

HIV Prevention and Chinese / Chinese American College Women
Pre-focus group questionnaire

Purpose
Thank you for taking the time to be here today and share your thoughts. We are interested in learning about the participants of today's focus group. Please complete this pre-focus group questionnaire below and remember that your responses are confidential.

Campus
☐ City College of San Francisco    ☐ Ohlone College

1. Age ______
2. How do you identify yourself?
   ☐ Chinese
   ☐ Chinese American
   ☐ Taiwanese
   ☐ Taiwanese American
   ☐ Other

3. Place of birth ______________
4. What is your year in school?
   ☐ 1st year
   ☐ 2nd year
   ☐ 3rd year
   ☐ 4th year
5. Are you an International Student?
   ☐ Yes
   ☐ No
6. How do you describe your current dating life?
   ☐ Single
   ☐ In a committed dating relationship
   ☐ In a casual dating relationship
   ☐ Married
7. Where do you go for primary & reproductive care needs? Check all that apply.
   ☐ Your private doctor's office
   ☐ The Student Health Center on campus
   ☐ A community clinic
   ☐ Other

8. Which of the following best describes you?
   ☐ Heterosexual
   ☐ Gay / Lesbian
   ☐ Bisexual
   ☐ Transgender
   ☐ Unsure

9. Are you currently sexually active or have had sex within the past year?
   ☐ Yes
   ☐ No

10. What is the number of sexual partners you've had in:
    ☐ The last year?
    ☐ In your lifetime?

11. Have you ever been tested for HIV?
    ☐ Yes
    ☐ No

12. How concerned are you personally about becoming infected with HIV/AIDS?
    ☐ Very concerned
    ☐ Somewhat concerned
    ☐ Not too concerned
    ☐ Not at all concerned
    ☐ Don't know / no response

Thank you for your participation.

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Appendix D: Focus Group Recruitment Flyer

Earn $15 and a free lunch for participating in a Research study on sexual health

We are looking for students to participate in a focus group for 1½ hours. You may qualify for the study if you:

- Self-identify as Chinese or Chinese American
- Are a heterosexual female
- Are 18-24 years old
- A student at Ohlone College
- Have had sex within the past year

Date: To be determined
Time: 12:00 pm - 1:30 pm
Place: Room 1307, Video Conference Room

☐ Yes, I am interested and available to participate in the focus group on (date) from 12-1:30 PM. (Lunch and $15)

First name (only) __________________________
Email address _____________________________
Phone number _____________________________ (to call and confirm only)

☐ No, thank you

Please turn in completed forms to the Ohlone Student Health Center in bldg. 16.

This is a student research project from Loma Linda University, School of Public Health, Department of Health Promotion and Education. The purpose of this study is to examine partner communication and factors that influence the decision to obtain an HIV test among Chinese/Chinese American community college students.

All information collected will remain confidential and your name and email will not be used for any other purpose. If you have any questions, please call the Ohlone Student Health Center at (510) 659-6258.

Adventist Health Sciences Center
Institutional Review Board
Approved 7/1/2020, Chair F. J. Crider, Ph.D.
Appendix E: Summary of Focus Groups

Focus Group Summary Notes

Focus groups on Chinese/Chinese American college women & sexual health
Ohlone College, June 2007
City College of San Francisco, July 2007
N = 12

Dating experiences:
- Easier than dating in high school because maturity level
- College guys are more open, willing to say anything, less secretive, open about asking girls out
- Worried about dating in high school because of reputation, labels, what others think, status of girlfriend/boyfriend as opposed to "just talking" to that person
- After high school, there's more involvement
- High school had to be very "exclusive"
- "Talking"—predating, communication
- When talking, you're trying to get more intimate
- Definition of dating: boyfriend, partners, kind of dating, boy/best friend

Ethnicity of partners:
- In high school—only dated Asian guys, now it doesn't matter
- Expectations: bilingual, cultural background, goals in life, respectful of parents
- Really doesn't matter, it's who you see is fitting within your own expectations
- Asian woman and White guys: Chinese girls can "hold their tongues"
- Cultural elements
- Confidence issues
- How many girls have dated Asian or Chinese guys: 5 out of 6 (Ohlone)
- How many have dated non-Asians: 4 out of 6 (Ohlone)
- "Saving family face" reputation of family, saving parents from misery
- Children reflect their parent's character, family, respect from community

Definition of sex:
- Sex being taboo
- Considered a virgin until actual intercourse
- Some see oral sex as sex, but actual intercourse was more important
- Overall—Chinese girls aren't talking to each other about sex as much as white girls. Usually hypothetical situations with friends (if you like this guy, well...)
- Chinese women aren't as open, in Chinese—there's no exact word/definition
- Higher level of intimacy, not necessary penetration
- Anything with the word sex in it (anal sex, oral sex, etc.)
- Anything that puts you at risk for an STD
Partner communications:
- "The talk"
- Usually comes up during the "predating" time
- Depends how open you are; the girl usually brings it up
- Easier to talk about it in college because you assume or find out that most girls are sexually active, as opposed to high school when you think most girls are virgins — it's embarrassing
- Girls seem to be more shy, guys more open, especially among other guys
- Jokingly ask them about personal history as friends, find out personal experiences before
- Overall open about sex with partners, specific to each other vs. third person
- No difference from ethnicities when about talking about sex, it's more the person than race
- Culture barrier in terms of Asian Americans and Asians who have grown up in other countries
- HIV not ever brought up among family and friends

HIV testing:
- Prevention? What does that mean to you?
- It seems pretty inconvenient
- Using a condom
- Getting tested first before anything
- Abstinence
- Has never talked about abstinence with friends
- Topic doesn't come up, bad feelings and emotions talking about HIV because of family member dying
- Didn't talk about it because guys were virgins, so they trusted them
- Is HIV rare among Chinese folks? No, not really
- Where do they get info? The health center, boyfriends, teen clinic
- 3 out of 6 have gotten an HIV test; all only once (CCSF)
- For girls that haven't tested: didn't test because only thought that it was all blood testing, was scared, recently found out about other ways to test, waiting until six months passes, little information, will eventually test, never really thought about it, only partner with boyfriend so didn't think about it, little information about other methods
- People aren't getting tested due to people not talking about, if you don't talk about, it must not be happening

Why do you get tested?
- Positive attitude – they know they should do it
- How many have gotten tested? 4 out of 6 hands raised
- Not tested because it wasn't a concern
- Why? Personal concern, being smart about it
- Don't know anyone who has HIV, but got tested because that's what you should do
- Believe that people should get tested for other diseases
- Overall good experience from HIV testing
- Ethnic specific — media/marketing not doing a good job. Ads tell people to "Get Tested," but where? They don't tell you how
HIV prevention – what does it mean?

- Getting tested, using condoms, protection every time, tested consistently
- Term triggers the thought of blood, transfusion, needles, don't touch other people's blood, beware of blood
- Thinks of clinics when the term is mentioned
- Context heard in media, always brings negativity
- Thinks of drugs when hearing HIV vs. STD prevention
- Talks mostly about STDs vs. contracting HIV when talking to friends
- No clue about HIV statistics among Chinese/Asians – media usually covers general population, gays, or even blacks more so than specifically Chinese
- Does HIV affect Chinese Americans? Many Chinese/Asians aren't aware because they don't feel like they're susceptible
- Reason why statistics are low – people aren't having sex, so there's no numbers
Appendix F: Letter of Approval from City College of San Francisco

April 27, 2007

Loma Linda University
Office of Sponsored Research
Institutional Review Board
11188 Anderson Street
Loma Linda, CA 92350

Dear Members of the Institutional Review Board:

City College of San Francisco (CCSF) is pleased to be a participating campus in the research study on "Partner Communication and Factors Influencing the Decision to Obtain an HIV Test among Chinese/Chinese American Community College Students in Northern California" that will be conducted by Sang Leng Trieu, student investigator, under the guidance of her dissertation committee faculty members.

As CCSF does not have an Institutional Review Board, this letter serves as an administrative approval of Ms. Trieu’s dissertation research that will take place from May 10, 2007 – December 15, 2007. We have been informed that all students who meet the inclusion criteria to participate will receive informed consent and that participation is completely voluntary. We understand that the Student Health Center will be the primary location of participant recruitment, though broader recruitment efforts will also occur, such as placing an ad in the campus newspaper and conducting outreach to selected student groups. All information collected will remain confidential and students’ names or other identifying information will not be used when reporting results or for any other purposes.

Should you have any questions, we may be contacted at (415) 239-3227.

Sincerely,

[Signature]
Robert S. Gabriner, Vice Chancellor
Institutional Advancement

[Signature]
Sunny Clark, NP, Clinical Director & Dept. Chair
Student Health Service

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Appendix G: Letter of Approval from DeAnza College

DeAnza College
Foothill
De Anza
Community
College
District

21250 Stevens Creek Blvd.
Cupertino, CA 95014

April 27, 2007

Loma Linda University
Office of Sponsored Research
Institutional Review Board
11188 Anderson Street
Loma Linda, CA 92350

Dear Members of the Institutional Review Board:

DeAnza College is pleased to be a participating campus in the research study on “Partner Communication and Factors Influencing the Decision to Obtain an HIV Test among Chinese/Chinese American Community College Students in Northern California” that will be conducted by Sang Leng Trieu, student investigator, under the guidance of her dissertation committee faculty members.

As DeAnza College does not have an Institutional Review Board, this letter serves as an administrative approval of Ms. Trieu’s dissertation research that will take place from May 10, 2007 – December 15, 2007. We have been informed that all students who meet the inclusion criteria to participate will receive informed consent and that participation is completely voluntary. We understand that the Student Health Center will be the primary location of participant recruitment, though broader recruitment efforts will also occur, such as placing an ad in the campus newspaper and conducting outreach to selected student groups. All information collected will remain confidential and students' names or other identifying information will not be used when reporting results or for any other purposes.

Should you have any questions, we may be contacted at (909) 864-8733.

Sincerely,

Howard J. Irwin, Jr.,
Dean, Counseling and Matriculation Division

Mary Sullivan, BSN, MSN, Coordinator
Student Health Services

Mary Sullivan, BSN, MSN, Coordinator
Student Health Services

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Appendix H: Letter of Approval from Foothill College

FOOT HILL COLLEGE

12345 El Monte Road • Los Altos Hills, CA • 94022-4599

Phone: (650) 949-7777
FAX: (650) 949-7375
www.foothill.edu

April 27, 2007

Loma Linda University
Office of Sponsored Research
Institutional Review Board
11188 Anderson Street
Loma Linda, CA 92350

Dear Members of the Institutional Review Board:

Foothill College is pleased to be a participating campus in the research study on “Partner Communication and Factors Influencing the Decision to Obtain an HIV Test among Chinese/Chinese American Community College Students in Northern California” that will be conducted by Sang Leng Trieu, student investigator, under the guidance of her dissertation committee faculty members.

As Foothill College does not have an Institutional Review Board, this letter serves as an administrative approval of Ms. Trieu’s dissertation research that will take place from May 10, 2007 – December 15, 2007. We have been informed that all students who meet the inclusion criteria to participate will receive informed consent and that participation is completely voluntary. We understand that the Student Health Center will be the primary location of participant recruitment, though broader recruitment efforts will also occur, such as placing an ad in the campus newspaper and conducting outreach to selected student groups. All information collected will remain confidential and students’ names or other identifying information will not be used when reporting results or for any other purposes.

Should you have any questions, we may be contacted at 650-949-7209 or by email at johnstonerobert@foothill.edu

Sincerely,

Robert Johnstone, Ph.D., Vice President
Instruction & IR

Naomi Kitajima, NP, Health Services Coordinator
Student Health Services

Robert Johnstone, Ph.D., Vice President
Instruction & IR

Naomi Kitajima, NP, Health Services Coordinator
Student Health Services

4-27-07

Date

6/1/07

Date

Foothill-De Anza Community College District

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Appendix I: Letter of Approval from Ohlone College

Ohlone Community College District
A World of Cultures United in Learning
43000 Mission Boulevard, P.O. Box 3309 Fremont, CA 94539-0390
www.ohlone.edu

April 30, 2007

Loma Linda University
Office of Sponsored Research
Institutional Review Board
11188 Anderson Street
Loma Linda, CA 92350

Dear Members of the Institutional Review Board:

Ohlone College is pleased to be a participating campus in the research study on “Partner Communication and Factors Influencing the Decision to Obtain an HIV Test among Chinese/Chinese American Community College Students in Northern California” that will be conducted by Sang Leng Trieu, student investigator, under the guidance of her dissertation committee faculty members.

As Ohlone College does not have an Institutional Review Board, this letter serves as an administrative approval of Ms. Trieu’s dissertation research that will take place from May 10, 2007 – December 15, 2007. We have been informed that all students who meet the inclusion criteria to participate will receive informed consent and that participation is completely voluntary. We understand that the Student Health Center will be the primary location of participant recruitment, though broader recruitment efforts will also occur, such as placing an ad in the campus newspaper and conducting outreach to selected student groups. All information collected will remain confidential and student names or other identifying information will not be used when reporting results or for any other purposes.

Should you have any questions, Sally Bratton may be contacted at (510) 659-7360/sbratton@ohlone.edu and Ron Travenick may be contacted at (510) 659-6107/rtravenick@ohlone.edu.

Sincerely,

Ron Travenick
Designated IRB Contact, Ohlone College

Sally Bratton
Health Center Director, Ohlone College

President / Superintendent Douglas Treadway, Ph. D.
Board of Trustees: Dan Archer, Robert Brunton, Ruthe Foster, Bill McMillen, Nick Nardolillo, John Weed, Garrett Yee
Appendix J: LLU Institutional Review Board Approval

INSTITUTIONAL REVIEW BOARD
Initial Approval Notice - Expedited Review
OFFICE OF SPONSORED RESEARCH \+1168 Anderson Street \+Loma Linda, CA 92350
(909) 558-4531 (voice) (909) 558-0131 (fax)

To: Modeste, Naomi N
Department: Health Promotion & Education
Protocol: Partner communication and factors influencing the decision to obtain an HIV test among Chinese/Chinese American Community College students in Northern California

This study was review and approved administratively on behalf of the IRB. This decision includes the following determinations:

- Risk to research subjects: Minimal
- Approval period begins: 06-Jun-2007 and ends 07-Jun-2008
- Stipulations of approval: None

Consent Form
Unless IRB has given a specific waiver of informed consent (as documented in the approval stipulations above) the IRB-approved and stamped consent form accompanies this letter. This now becomes the official master consent form for making copies to provide to study participants.

Adverse Events / Protocol Changes
The IRB should be notified in writing of any modifications to the approved research protocol. Adverse effects must be reported to the IRB in accordance with institutional policy. If sponsor or contractual adverse event reporting requirements differ from requirements for reporting to IRB, all reporting requirements must still be met.

Protocol Review
Your protocol is tentatively scheduled for review and renewal at least two weeks prior to the approval end-date indicated above. To assure uninterrupted approval of this project, you will be sent a report form to request renewal by completing and timely returning, to Office of Sponsored Research. Anticipate the approval expiration so your study does not lapse; contact OSR for assistance if necessary. In addition to reporting the requested renewal status information, you may also use the form to close the study at that time, if applicable.

Records
All records relating to this project, including signed consent forms, must be kept on file for three years following completion of the study. Please note the PI's name and the OSR number assigned to this IRB protocol (as indicated above) on any future communications with the IRB. Direct all communications to the IRB via the Office of Sponsored Research. Thank you for your cooperation in LLU’s shared responsibility for the ethical use of human subjects in research.

Signature of IRB Chair/Designee: 

Loma Linda University Alzheimer's Health Science Center hosts Federalwide Assurance (FWA) No. 0447 with the U.S. Office for Human Research Protections, and the IRB registration no. is IRB00006355. This Assurance applies to the following institutions: Loma Linda University, Loma Linda University Medical Center (including Loma Linda University Children's Hospital, Loma Linda Medical Center), Loma Linda University Behavioral Medicine, and affiliated medical practice group.

IRB Chair: Rhodes L. Rigaby, M.D. 
Department of Medicine 
(909) 558-2541. rigaby@hsa.llmc.edu

IRB Administrator: Linda C. Hasseid, M.A., Director 
Office of Sponsored Research 
Ext 42570. Fax 90131, hasseidol@llu.edu

IRB Specialist: Gwendy R. Rutebuka, Ph.D., MEPH 
Office of Sponsored Research 
Ext 87130. Fax 80131, rutebakag@llu.edu

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INFORMED CONSENT TO PARTICIPATE IN A RESEARCH STUDY

STUDY TITLE: PARTNER COMMUNICATION AND FACTORS INFLUENCING THE DECISION TO OBTAIN AN HIV TEST AMONG CHINESE/CHINESE AMERICAN COMMUNITY COLLEGE STUDENTS IN NORTHERN CALIFORNIA

PURPOSE AND PROCEDURES
You are asked to participate in a research study conducted by a doctoral student at Loma Linda University, School of Public Health, as part of her dissertation research. The purpose of the study is to examine sexual health, HIV/AIDS, relationships, and communication patterns of heterosexual Chinese/Chinese American college women. If you agree to participate in this study, you will be asked to complete a questionnaire and participate in a focus group discussion. The purpose of the questionnaire is to learn about participants and obtain some general demographic information. The focus group session itself will last approximately one and a half hours, and involve discussion with your peers about sexual health, romantic relationships, and communication.

RISKS
You may experience minor discomfort in responding to some of the questions due to the sensitive and personal nature of the topics discussed. You do not have to answer questions that make you feel uncomfortable during the focus group, or asked about in the questionnaire.

BENEFITS
Although you may not benefit personally from the study, we hope that it will be a positive experience that will allow you to think about aspects of your lives you have not thought about before. Your participation will help us improve our understanding of the cultural factors that Chinese/Chinese American women face around issues of HIV prevention and communication with romantic partners, as well as help advance the broader Asian American health research agenda.

CONFIDENTIALITY
We will strongly uphold the confidentiality of the information you provide, and record of your participation in this focus group will not be included in your medical charts at the student health center (if you have been a patient there). This session will be audio-recorded to ensure that we produce accurate, verbatim notes to help us analyze the results. Any personal information that may identify you by name will be removed and

Loma Linda University
Adventist Health Sciences Center
Institutional Review Board
Approved 11/21/2002 Void after 11/21/2008
replaced with pseudonyms. No one but the researchers involved will have access to your personal information. The audio-recordings will be destroyed after the data are analyzed.

COSTS AND REIMBURSEMENT
In recognition of your time for being here today, we are providing you with lunch and a small stipend in the amount of $15 in cash. The stipend will be given out at the end of the focus group session. There are no additional costs to participating in the study, beyond the time involved to participate.

RIGHT TO REFUSE OR WITHDRAWAL
Participation in the study is completely voluntary. You may refuse to participate without any penalty or loss of benefits. You may choose to discontinue participation at any time without penalty.

CONTACT INFORMATION
Should you have any questions about the research and research subjects’ rights, please feel free to contact the student researcher, Sang Leng Trieu, Loma Linda University, School of Public Health at (626) 810-0697. If you wish to contact an impartial third party not associated with this study regarding any question or complaint you may have about the study, you may contact Sally Bratton, Ohlone College Student Health Center, Fremont, CA, phone (510) 659-6258 for information and assistance.
IRB Change Request - 57130 - Collection of data is moving slower than anticipated. Ther... Page 1 of 1

INSTITUTIONAL REVIEW BOARD
CHANGE REQUEST FORM


OFFICE OF SPONSORED RESEARCH • 11188 Anderson Street • Loma Linda, CA 92350
(909) 558-4531 (voice) • (909) 558-6131 (fax)

Principal Investigator: Modeste, Naomi
Department: Health Promotion & Education
Protocol Title: Partner communication and factors influencing the decision to obtain an HIV test among Chinese/Chilean American Community College students in Northern California
Current Stipulations: None

I. CHANGE REQUEST DUE TO:
□ Initiated by local (LLU) Investigator.

II. PROTOCOL CHANGES:
a. Summary: Collection of data is moving slower than anticipated. There are many more hits to “Survey Monkey” than are actually completing the survey. In order to meet our numbers we need to expand the survey to include two additional methods of recruitment. 1. Offer a paper-pencil survey and 2. use the snowball recruitment method. (See attached)
b. Classification of significant changes:

   PROCEDURES
   Changes in subject-related interventions: 1. Subjects will complete the questionnaire in paper format. 2. Another form of recruitment call “snowball” will be used
   Justification: Need to meet the number of subjects for the study to make it meaningful.

   ADMINISTRATIVE
   Changes to approved list of investigators:
   Change study title to: None
   c. Change does not involve an updated Investigator’s brochure or supplement.

III. INFORMED CONSENT CHANGES:
a. Change to informed consent process? No
   b. Change to informed consent document? No
   c. Subjects will be re-consented? No,

IV. CHECKLIST OF ITEMS TO INCLUDE:

"I accept responsibility for the factual content of this report and am available for discussion if additional questions are raised."

Signature of Principal Investigator

Date (information provided as of this date)

Please return form, together with the appropriate attachments, to: Office of Sponsored Research

OFFICE USE ONLY

INSTITUTIONAL REVIEW BOARD ACKNOWLEDGEMENT and REPORT TO PRINCIPAL INVESTIGATOR.

☒ Change Report is accepted as submitted. Summary will appear in Research Report at conclusion of approval period.
☐ Further information required, as follows: 
☐ PI needs consultation with IRB chair.
☐ Amendment requires full board review. Please submit 23 copies of this report to the IRB to be scheduled on the agenda.

http://research.llu.edu/ChangeRequest_FormPrint.asp

10/23/2007
Snowballing method

As mentioned in the dissertation proposal submitted as part of the IRB application, the snowballing technique is another method of recruitment that will be used. With this method, those who have already agreed to participate and completed their online survey will be asked to send the survey hyperlink to their friends and peers who may also be interested in participating. Below is the content for the email that will be sent out to participants who received the online invitation to participate in the study and completed the survey.

Email text for snowballing method:

Dear Students,

A few weeks ago, you accessed the link to a survey on sexual health among Chinese/Chinese American college women. We are still recruiting participants for the study and would appreciate your help in identifying any friends you have who meet the study criteria and might be interested in participating in the study. If so, please feel free to forward them the link below which will take them to the survey page.

Please remember that this is a completely voluntary and anonymous survey; their names and email addresses will not be linked to their responses. You are not obligated to forward this email, but we appreciate your willingness to do so, if you so choose.

As a reminder, the study criteria are as follows:

✓ Chinese/Chinese American college women
✓ Female
✓ 18-24 years old
✓ Heterosexual
✓ Have ever had sex

Upon completion of the survey, all participants will be entered into a drawing for a chance to win: an iPod, $100 cash, or a campus parking permit.

Please feel free to contact me by email if you have any questions or concerns.

Here is a link to the survey:

[SurveyLink]

Thanks for your help.
Addition to Data Collection and Recruitment – to submit to IRB

October 2007

Participant recruitment for this project is not going as well as we would have liked. We are therefore proposing to add two additional methods of recruitment to our participant outreach efforts: (1) offering a paper-pencil format survey in addition to the existing online survey; (2) utilizing the snowball recruitment method.

Paper-pencil method

Although the dissertation proposal stated that the survey will be conducted online, we are interested in offering an alternative method by allowing students to complete a paper-pencil version. Recruitment of participants using this method will be primarily through classroom outreach and ethnic student club meetings. Specific courses such as Chinese language classes will be targeted. We will seek permission from the respective faculty members to go to their classes, either at the beginning or end of class time in order to minimize disruption and distribute surveys to all female students, regardless of whether they meet the study criteria. Doing so will not identify those students who do not meet the study criteria and ensure preservation of anonymity. All surveys will be collected individually and deposited in an envelope at the end of a 15 minute period (this should allow enough time for completion of the survey instrument).

Text on verbal recruitment of ethnic student clubs:

Thank you for allowing me to join you in your club meeting today, and thank you to the male students who have graciously agreed to leave the room for about 15 minutes. I appreciate the opportunity to learn more about your club activities and your willingness to assist me in my research project. As I mentioned, I am currently a doctoral student in public health working on my dissertation project which focuses on Chinese/Chinese American college women and sexual health. I am here today to ask for those who meet the study criteria to participate. The study criteria are listed on the board behind me. Participation in the study is completely voluntary and anonymous.

I will pass a survey out to each one of you. Please take a moment to read the first two pages, which contain the study consent form and the study criteria. If you meet the criteria and are interested in participating, please proceed with the remainder of the survey. For those who do not meet the study criteria or are simply not interested, please mark the appropriate response indicating so. You may spend the rest of the time looking at the survey should you be interested or work on other tasks. Remember that all participants will be entered into a drawing for an iPod, $100 cash, or a campus parking permit. All surveys will be collected individually and deposited in an envelope at the end of a 15 minute period (this should allow enough time for completion of the survey instrument). Thank you so much for your cooperation and participation in this important study.
Appendix K: SurveyMonkey Questionnaire

### Sexual health among Chinese / Chinese American college women

#### 1. Informed consent

Hello,

My name is Sang and I am a graduate student in a public health doctoral program at Loma Linda University. You are invited to participate in a research study to examine sexual health, HIV/AIDS, relationships, and communication patterns of heterosexual Chinese/Chinese American college women in the San Francisco Bay Area. If you agree to participate, you will be asked to complete an online survey that will take approximately 15 minutes to complete. Please keep in mind that:

* This survey is completely voluntary.
* It is an anonymous survey. Your name and email address will not be linked to your responses.
* You may refuse to participate or discontinue participation without any penalty or loss of benefits.

You may experience minor discomfort in responding to some of the questions due to the sensitive and personal nature of the topics discussed. You do not have to answer questions that make you feel uncomfortable.

Although you may not benefit personally from the study, we hope that it will be a positive experience that will allow you to think about aspects of your lives you have not thought about before. Your participation will help us improve our understanding of the cultural factors that Chinese/Chinese American women face around issues of HIV prevention and communication with romantic partners, as well as help advance the broader Asian American health research agenda. The results of this study may be published for scientific purposes but will not have your name or any identifiable references to you.

Recognizing that participation in this research is an investment of your time, you have the opportunity to be entered into a drawing upon completion of the survey for a chance to win: an iPod, a $100 gift certificate, or a campus parking permit for one quarter / semester.

**CONTACT INFORMATION**

Should you have any questions about the research and research subjects’ rights, please feel free to contact me at (626) 810-0697 or at sangleng@yahoo.com. If you wish to contact an impartial third party not associated with this study regarding any question or complaint you may have about the study, you may contact Sally Bratton, Director of Ohlone College Student Health Center, Fremont, CA, at (510) 659-6258 for information and assistance.

Thank you very much for your time.

By clicking on "next" you consent to participate in this study.
### Sexual health among Chinese / Chinese American college women

#### 2. Inclusion criteria

1. Thank you for your willingness to participate in this research study. This study focuses on a specific population. Please review the inclusion criteria below and respond accordingly.

You are invited to proceed with this study if you are:

* Self-identified Chinese/Chinese American
* Female
* College student
* Heterosexual
* 18-24 years old
* Have ever had sexual intercourse

- [ ] I meet all of the above inclusion criteria
- [ ] I do not meet one or more of the above inclusion criteria

#### 3. Participant demographics

1. Please indicate your age.
   - [ ] 18
   - [ ] 19
   - [ ] 20
   - [ ] 21
   - [ ] 22
   - [ ] 23
   - [ ] 24

2. How do you best describe your ethnic identity?
   - [ ] Chinese
   - [ ] Chinese American
   - [ ] Taiwanese
   - [ ] Taiwanese American
   - [ ] Other (please specify)

3. Where were you born?
   - [ ] US
## Sexual health among Chinese / Chinese American college women

1. China  
2. Hong Kong  
3. Taiwan  
4. Other (please specify)  

### 4. Growing up, where did you receive most of your education before starting college?
- [ ] US
- [ ] Abroad (please specify)  

### 5. How many years have you lived in the United States?
- [ ] Less than 2 years
- [ ] 2-5 years
- [ ] 6-10 years
- [ ] More than 10 years  

### 6. Are you an international student?
- [ ] Yes
- [ ] No  

### 7. How would you best describe the status of your current or most recent sexual relationship?
- [ ] Relationship with no sexual activity
- [ ] One casual partner
- [ ] One committed partner
- [ ] Multiple partners, one of whom was/is my primary partner
- [ ] Multiple partners, none of whom was/is my primary partner
- [ ] Other (please specify)  

### 8. Thinking about your current or most recent relationship, how long were you involved with your partner? If you had more than one partner, chose the partner that you’re thinking of now.
- [ ] 1-2 months
- [ ] 3-5 months
- [ ] 6-12 months
- [ ] Longer than a year (please specify)
<table>
<thead>
<tr>
<th>9. What ethnicity are your current or former dating partners? Check all that apply.</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Chinese / Chinese American</td>
</tr>
<tr>
<td>☐ Other types of Asians / Asian Americans / Pacific Islanders</td>
</tr>
<tr>
<td>☐ Non Asians</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. How did you learn about this research study? Check all that apply.</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Student health center</td>
</tr>
<tr>
<td>☐ Class</td>
</tr>
<tr>
<td>☐ Flyers / postcards</td>
</tr>
<tr>
<td>☐ Word of mouth</td>
</tr>
<tr>
<td>☐ Campus outreach (e.g. approached by recruiters in quad, library, student union, etc.)</td>
</tr>
<tr>
<td>☐ Other (please specify)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. What campus are you currently attending?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ City College of San Francisco</td>
</tr>
<tr>
<td>☐ De Anza College</td>
</tr>
<tr>
<td>☐ Foothill College</td>
</tr>
<tr>
<td>☐ Ohlone College</td>
</tr>
</tbody>
</table>
## Sexual health among Chinese / Chinese American college women

### 4. Sexual history and behavior

1. At what age did you have your first sexual intercourse? For the purposes of this study, sexual intercourse is defined as oral, vaginal, and / or anal penetration?

   - [ ]

2. What is the number of sexual partners you've had:

   - in the last year [ ]
   - in your life [ ]

3. The last time you had sexual intercourse, did you or your partner use a condom?

   - [ ] Yes
   - [ ] No
   - [ ] Don't remember

4. Have you ever been diagnosed with a sexually transmitted disease? (e.g. Chlamydia, Gonorrhea, HPV, Herpes, Genital warts, Syphilis, HIV)?

   - [ ] No – I have never been tested
   - [ ] No – I have been tested and it was negative
   - [ ] Yes

5. Have you ever been diagnosed with an abnormal pap smear

   - [ ] I've never had a pap smear
   - [ ] No
   - [ ] Yes

6. When you have sexual intercourse, what contraceptive method do you most often use?

   - [ ] I do not use any contraception
   - [ ] Condoms
   - [ ] Oral contraceptives
   - [ ] Depo-Provera
   - [ ] Diaphragm
   - [ ] Spermicide
   - [ ] Fertility Awareness
   - [ ] Withdrawal
   - [ ] Nuva Ring
7. Have you ever used emergency contraception (also known as the "morning after pill")?
- Yes
- No

### 5. HIV/AIDS knowledge, attitudes, and beliefs

1. Please give your best idea of whether or not you agree ("yes") or disagree ("no") with the statement. Select one response for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A person can get AIDS from sharing needles to inject drugs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A person can get AIDS from using public toilet seats.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A person can get AIDS from donating blood.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A person can get AIDS from having sex without using a condom.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A person can get AIDS from having a blood test.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A person can get AIDS from holding hands with someone.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People can reduce their chances of becoming infected with the AIDS virus by not having any kind of sexual intercourse with an IV drug user.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anyone who has the AIDS virus can infect someone else during sexual intercourse.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A pregnant woman who has the AIDS virus can infect her unborn baby.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a cure for AIDS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only gay men get AIDS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People can reduce their chances of becoming infected with the AIDS virus by not having any kind of sexual intercourse (being abstinent).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A person can get AIDS from being bitten by mosquitoes/insects.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Please indicate whether you agree or disagree with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>People like me do not get HIV infections.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am very healthy so my body can fight off an HIV infection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am too young to get an HIV infection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am not worried that I might get an HIV infection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Sexual health among Chinese / Chinese American college women

People my age are too young to get an HIV infection.  
People my age do not get HIV infections.

### 3. Please indicate whether you agree or disagree with the following statements

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe that HIV infection is severe</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>I believe that HIV infection has serious negative consequences</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>I believe that HIV infection is extremely life-threatening</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>It is likely that I will get HIV</td>
<td>○</td>
<td>●</td>
</tr>
</tbody>
</table>

### 4. Please indicate whether you agree or disagree with the following statements

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyone should get an HIV test</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Taking the HIV test would give you a sense of security</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Getting tested for HIV helps you stay healthy to care for family and friends</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>If you had HIV, you wouldn't want to infect anyone else</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>You want to know if you have HIV, so you don't give it to someone else</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>If you had HIV, you would want to tell your sex partner</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>You want to make sure you don't have HIV, so you could tell your sex partner you don't have it</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>If you had HIV, you would rather not know about it</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>It's better not to know if you have HIV</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>You are afraid to get an HIV test</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>It is not important to know if you have HIV, because fate will decide if you live or die</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>You would be afraid to tell your sex partner that you got tested for HIV</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>You are worried about the needle used in the HIV blood test</td>
<td>○</td>
<td>●</td>
</tr>
</tbody>
</table>
### 6. HIV testing history

1. Have you ever been tested for HIV? If no, please skip to question #5 in this section.
   - Yes
   - No. (Please skip to question #5 of this section)

2. How many HIV tests have you taken in your lifetime?
   - 1
   - 2
   - 3
   - 4 or more

3. Where did you go for your most recent HIV test?
   - Student health center
   - Community / public clinic
   - Private doctor
   - Other (please specify)

4. Please indicate the main reason you why you decided to get your last HIV test, followed by a secondary reason, if any.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Main reason</th>
<th>Secondary reason, if any</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had sex with a new partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had unprotected oral, vagina, and/or anal sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just to find out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time for regular test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asked by partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenced by friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had / have an HIV-positive partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had a partner with other STDs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To confirm previous test results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As part of a research study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health care provider or health educator recommended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illness (STD or non-STD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immigration requirement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sexual health among Chinese / Chinese American college women

5. Please indicate your reason(s) for not getting an HIV test. Check all that apply.

- I am at low risk for HIV infection
- I am afraid to learn the results
- I don't know how the test is done
- I'm worried about confidentiality
- I don't think I can get HIV
- I don't worry about HIV
- I am not sure where to go get tested
- Inconvenience
- No particular reason
- Other (please specify)

6. Please indicate whether you agree or disagree with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is easy to get an HIV test.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting an HIV test before sex tells my partner I care about my health.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to go get an HIV test.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know where to go for an HIV test.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 7. HIV testing and communication

1. Have you specifically told your partner your HIV status (positive or negative HIV status)?
   - Yes
   - No
   - I don't know my HIV status

2. Has your partner told you his HIV status (positive or negative)?
   - Yes
   - No
   - My partner doesn't know his status

3. If you have discussed HIV testing or HIV status with your current or most recent partner, when did the conversation take place?
   - I have never discussed HIV testing or HIV status with my partner
   - At start of relationship
   - Prior to sexual activity
   - After sex
   - After a crisis, e.g. emergency contraception
   - Other (please specify)

4. Please indicate whether you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I become involved in a relationship, I usually discuss prevention of HIV.</td>
<td>☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>When I am involved in a sexual relationship, I feel comfortable discussing my concerns about HIV with my partner.</td>
<td>☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>When I become involved in a new relationship, I insist that we both get tested for HIV.</td>
<td>☐ ☐ ☐ ☐</td>
</tr>
</tbody>
</table>
8. Asian Identify Self-Acculturation Scale

The questions which follow are for the purpose of collecting information about your historical background as well as more recent behaviors which may be related to your cultural identity. Choose the one answer which best describes you.

1. What language can you speak?
- Asian only (for example, Chinese, Japanese, Korean, Vietnamese, etc.)
- Mostly Asian, some English
- Asian and English about equally well (bilingual)
- Mostly English, some Asian
- Only English

2. What language do you prefer?
- Asian only (for example, Chinese, Japanese, Korean, Vietnamese, etc.)
- Mostly Asian, some English
- Asian and English about equally well (bilingual)
- Mostly English, some Asian
- Only English

3. How do you identify yourself?
- Oriental
- Asian
- Asian-American
- Chinese-American, Japanese-American, Korean-American, etc.
- American

4. Which identification does (did) your mother use?
- Oriental
- Asian
- Asian-American
- Chinese-American, Japanese-American, Korean-American, etc.
- American

5. Which identification does (did) your father use?
- Oriental
- Asian
Sexual health among Chinese / Chinese American college women

6. What was the ethnic origin of the friends and peers you had, as a child up to age 6?
- Almost exclusively Asians, Asian-Americans, Orientals
- Mostly Asians, Asian-Americans, Orientals
- About equally Asian groups and Anglo groups
- Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups
- Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups

7. What was the ethnic origin of the friends and peers you had, as a child from 6 to 18?
- Almost exclusively Asians, Asian-Americans, Orientals
- Mostly Asians, Asian-Americans, Orientals
- About equally Asian groups and Anglo groups
- Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups
- Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups

8. Whom do you now associate with in the community?
- Almost exclusively Asians, Asian-Americans, Orientals
- Mostly Asians, Asian-Americans, Orientals
- About equally Asian groups and Anglo groups
- Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups
- Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups

9. If you could pick, whom would you prefer to associate with in the community?
- Almost exclusively Asians, Asian-Americans, Orientals
- Mostly Asians, Asian-Americans, Orientals
- About equally Asian groups and Anglo groups
- Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups
- Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups

10. What is your music preference?
- Only Asian music (for example, Chinese, Japanese, Korean, Vietnamese, etc.)
- Mostly Asian
- Equally Asian and English
### Sexual health among Chinese / Chinese American college women

1. What is your movie preference?  
   - Mostly English
   - English only
   - Asian-language movies only
   - Asian-language movies mostly
   - Equally Asian/English English-language movies
   - Mostly English-language movies only
   - English-language movies only

2. What generation are you? (circle the generation that best applies to you: )  
   - 1st Generation = I was born in Asia or country other than U.S.
   - 2nd Generation = I was born in U.S., either parent was born in Asia or country other than U.S.
   - 3rd Generation = I was born in U.S., both parents were born in U.S, and all grandparents born in Asia or country other than U.S.
   - 4th Generation = I was born in U.S., both parents were born in U.S, and at least one grandparent born in Asia or country other than U.S. and one grandparent born in U.S.
   - 5th Generation = I was born in U.S., both parents were born in U.S., and all grandparents also born in U.S.
   - Don't know what generation best fits since I lack some information.

3. Where were you raised?  
   - In Asia only
   - Mostly in Asia, some in U.S.
   - Equally in Asia and U.S.
   - Mostly in U.S., some in Asia
   - In U. S. only

4. What contact have you had with Asia?  
   - Raised one year or more in Asia
   - Lived for less than one year in Asia
   - Occasional visits to Asia
   - Occasional communications (letters, phone calls, etc.) with people in Asia
   - No exposure or communications with people in Asia

5. What is your food preference at home?
Sexual health among Chinese / Chinese American college women

16. What is your food preference in restaurants?
- Exclusively Asian food
- Mostly Asian food, some American
- About equally Asian and American
- Mostly American food
- Exclusively American food

17. Do you
- Read only an Asian language
- Read an Asian language better than English
- Read both Asian and English equally well
- Read English better than an Asian language
- Read only English

18. Do you
- Write only an Asian language
- Write an Asian language better than English
- Write both Asian and English equally well
- Write English better than an Asian language
- Write only English

19. If you consider yourself a member of the Asian group (Oriental, Asian, Asian-American, Chinese-American, etc., whatever term you prefer), how much pride do you have in this group?
- Extremely proud
- Moderately proud
- Little pride
- No pride but do not feel negative toward group
- No pride but do feel negative toward group

20. How would you rate yourself?
### Sexual health among Chinese / Chinese American college women

- Very Asian
- Mostly Asian
- Bicultural
- Mostly Westernized
- Very Westernized

**21. Do you participate in Asian occasions, holidays, traditions, etc.?**

- Nearly all
- Most of them
- Some of them
- A few of them
- None at all

### 9. Survey conclusion

1. **How important is it to have HIV or AIDS education that is presented in ways that make sense to Chinese/Chinese Americans in the Bay Area?**

   - Very important
   - Important
   - Somewhat important
   - Not important at all
   - Not sure of its importance

2. **Results of this research study will be ready by Spring 2008. Would you be interested in receiving a copy of the study results?** If so, please send an email to sangleng@yahoo.com.

   - Yes
   - No
Appendix L: Recruitment Postcards

WHICH ARE YOU?

Promiscuous  Accomodating
Exotic      Submissive
Shy
Obedient    Silent

[We simply don't know.]

Make your voices be heard. Participate in a research study on sexual health and Chinese / Chinese American college women.

All participants will be entered into a drawing for an iPod, $100 cash, or a campus parking permit.
Win an iPod, $100 cash, 
or a campus parking permit 
and be heard

If you meet the following study criteria:

- Chinese / Chinese American
- Female
- 18 – 24 years old
- Heterosexual
- Ever had sex

Please email Sang at sangleng@yahoo.com or call (510) 659-7359. You may also contact your student health center with any questions.

CCSF Student Health Services: (415) 239-3110
De Anza Student Health Services: (408) 864-8732
Foothill Health & Psychological Services: (650) 949-7243
Ohlone Student Health Center: (510) 659-6258

This study has been approved by Institutional Review Boards of the participating community colleges and Loma Linda University, Office of Sponsored Research, #57130.

Fall 2007
Participate in a research study on sexual health & Chinese / Chinese American college women.

This is an anonymous short survey. You may participate if you meet the study criteria listed on front of the card.

Email Sang at sangleng@yahoo.com or contact your student health center if you have any questions.

Email sangleng@yahoo.com to receive the online survey link

All information & responses to the survey will be kept confidential.

This study has been approved by Institution Review Boards of the participating community colleges & Loma Linda University, Office of Sponsored Research, #57130.
Appendix M: Survey Participants RSVP Cards

☑ Yes, I am interested in participating in:

A research study on sexual health & Chinese American college women

Campus
☐ City College of San Francisco
☐ De Anza College
☐ Foothill College
☐ Ohlone College

First name (only) ____________________________

Email address ____________________________

An email with a link to the survey will be sent to you.
Thank you very much for your interest.

☑ Yes, I am interested in participating in:

A research study on sexual health & Chinese American college women

Campus
☐ City College of San Francisco
☐ De Anza College
☐ Foothill College
☐ Ohlone College

First name (only) ____________________________

Email address ____________________________

An email with a link to the survey will be sent to you.
Thank you very much for your interest.
Appendix N: Labels for Condom Packets

Thank you for your interest in participating in a research study with CCSF Student Health Services.

An email with a link to the survey will be sent to you in a few weeks with the following subject heading:

If you have any questions, please contact Sang at sanalenq@yahoo.com or call (510) 659-6258

If you have any questions, please contact Sang at sanalenq@yahoo.com or call (510) 659-6258

Thank you for your interest in participating in a research study with CCSF Student Health Services.

An email with a link to the survey will be sent to you in a few weeks with the following subject heading:

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If you have any questions, please contact Sang at sanalenq@yahoo.com or call (510) 659-6258
Appendix O: Participants Recruitment Tip Sheet for Research Assistants

Thank you for your help in recruiting participants for my research study. Below is a script that you may find useful when approaching prospective participants.

- Hi there. Are you Chinese or Chinese American? (If so... proceed. If not, "Thank you very much for your attention").

- I am with the Student Health Center on campus and we are conducting a research study on Chinese and Chinese American college women's attitudes and behavior regarding sexual health. Would you be interested in participating? It's simply filling out a questionnaire that will take you about 7-10 minutes.

- If student says yes, please show them a postcard and review all of the study criteria to make sure they meet ALL of them. If they don't meet all of them, simply thank them anyway.
  
  - Chinese / Chinese American
  - Female
  - 18-24 years old
  - Heterosexual
  - Ever had sex (this is loosely defined – any oral, vaginal, or anal sex)

- Hand the student a survey with a pen. Students do not have to bubble in the circles; a simple mark or "x" will suffice.

- If student is interested but says she doesn't have time, tell them a URL link to the survey can be sent to them. Have student complete the RSVP interest card – just ask for first name and email address. Make sure email address is legible.

- Students can be part Chinese and still qualify for the study.

Possible questions or other things you can add to encourage participation:

- There are limited data among the Chinese ethnic group so your participation would be valuable and greatly appreciated.

- The study is conducted on four college campuses in the Bay Area: City College of San Francisco, De Anza, Foothill, and Ohlone.

- The study is anonymous – responses will not be attached to names.

- If students would like a copy of the study results, have them give their email address or write it on the last page of the survey.
Appendix P: Cover Letter to Californian Journal of Health Promotion

May 1, 2008

Jie Weiss, PhD, Editor
Californian Journal of Health Promotion
Department of Health Science
California State University, Fullerton

Dear Dr. Weiss:

Enclosed for your consideration is an original research article, entitled “Factors Associated with the Decision to Obtain an HIV Test among Chinese/Chinese American Community College Students in Northern California.” Please consider this manuscript for publication in the Californian Journal of Health Promotion.

While the HIV/AIDS epidemic is one of the most pressing global, social, and public health issues we face today, the recently noted decreases in overall prevalence send an encouraging message that prevention and intervention efforts may make an impact in eradicating this disease. HIV testing and counseling is the cornerstone to a comprehensive approach to HIV prevention and education, though little is known about testing patterns for the Asian Pacific Islander (API) community. Due to the lack of disaggregated data, even less is known about specific subpopulations within the API community. This paper represents innovative and timely research on Chinese/Chinese American community college women in Northern California, a population that is rapidly increasing, both in the Bay Area and throughout California. Research results may be of interest to a broad audience, including HIV/AIDS advocates, the Asian American community, college health professionals, and public health officials working toward interventions to improve HIV testing rates and understanding reasons for seeking such a health screening.

In accordance with journal guidelines:

1. All authors of this research have directly participated in the planning, execution or analysis of this study.
2. The content of this manuscript has followed APA guidelines.
3. The content of this manuscript is not simultaneously being considered for publication elsewhere.
Primary author contact information:
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Rowland Heights, CA 91748
Phone: 626.810.0697
Fax: 213.438.5744
Email: sangleng@yahoo.com

Sincerely,

[Signed]

Sang Leng Trieu, Dr.PH, MPH, CHES